Instruments

THE MAGAZINE OF
Measurement and Control

Vol. XIII
JAN. 1940
No. 1

SPECIAL ISSUE :: :: IN TWO PARTS

PART TWO

THE 1940 *Instruments* INDEX

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SPECIAL ISSUE OF

Vol. 13, No. 1
January, 1940
Price $2.00
In Two Parts

Instruments THE MAGAZINE OF MEASUREMENT and CONTROL

PART TWO—THE 1940 INSTRUMENTS INDEX

More Than a Directory

CONTAINING the answers to 99% of the inquiries which *Instruments* receives from subscribers, this Supplement may be likened to a set of phonograph records: it can only be "played" by a "pick-up." The simple "pick-up," which will place at your instant command a wealth of information, is merely your getting acquainted with this Supplement by READING THIS PAGE.

The Index Section—"who makes what"—is the most important. Anyone who wants to know where he can buy or secure information on a certain product will find the product properly indexed and cross-indexed, and under it the names of the manufacturers and sole representatives.

Indexing System. Products are indexed under the main word. In cases where a name is ambiguous, or where the item is known under two or more names, companies making such devices are listed under one subject and cross-references inserted under the other headings.

Specific Terms. You never are in need of "a gage" but of some particular kind of gage. Therefore we do not list manufacturers under broad general designations. For example, we do not list any names under the main heading "Meters" but we give the sources of supply for numerous classes and types of meters. Moreover, we do not list any names under "Meters, Liquid" alone, but we give under proper subheads the sources of supply for the *class* and *type* of liquid meter you may need.

Trade Names. An effort has been made to remove all proprietary trade names from the Index Section.

Correctness of Headings. As explained above, main headings and sub-heads are technically correct. A few are not scientifically correct: they are names in common usage, recognized for the convenience of the majority.

Correctness of Listings. We have endeavored to list no firm names under specific headings unless the instruments made by such firms belong there by virtue of their design and construction.

For example, instruments called "colorimeters" but which cannot yield color specifications, belong under Color Comparators, Color Matchers, etc.

Also, an instrument called the "Integrating ———" or "Totalizing ———" may be nothing but a counting type, belonging under the sub-head "Counting."

This we have done in relatively few cases, for it amounts to *censoring* the data sent to us by manufacturers (or sole representatives). As a rule, we had to take the company's word that it could supply the product in question. We can't send "detectives" to a thousand plants!

Completeness. More than 1000 manufacturers were convassed in the last four months. Those that did not fill in our first questionnaire after one month received a second one. Again, a third questionnaire was sent to non-responders at the end of the second month. In the last few weeks we even sent representatives to call on manufacturers. Therefore, the omission of any manufacturer's name under any heading is due to the negligence of someone in his own organization.

Every effort has been made to restrict the names in the Index Section to (1) the actual manufacturers and (2) the sole authorized sales agencies. On the other hand, whenever you desire to order at one time a variety of equipment, made by different firms, you may find it most convenient to get in touch with a recognized, competent, "laboratory supply house." These houses are listed under "*Apparatus, Laboratory*," on page 3.

Directory of Manufacturers (and Sole Representatives). This Section, pages 56-64, has a new feature this year: descriptions of the lines made or sold by these companies. We have added this feature because many of our subscribers, before writing to sources of supply, ask us "What kind of an outfit is the ——— Company?" Of course we have no right to qualify any company; and we never did.

In previous years, for example, a subscriber would find listed, under the item he wanted to buy, AAA Co., BBB Co. and CCC Inc., and would *later* discover that AAA Co. specialized in foundry supplies, BBB Co. manufactured chemical apparatus and CCC Inc. sold mill supplies. Now, every user of this directory can get a general idea of "the kind of an outfit." We have made every effort to obtain, from every manufacturer and supply house, a brief but adequate self-description.

Instruments' Further Service. This Index contains the answers to *only* 99% of your inquiries. If you cannot find the product or the name you want, communicate with the Information Section, Instruments Publishing Co., 1117 Wolfendale St., Pittsburgh, and every effort will be made to furnish the information promptly.

Suggestions. We shall appreciate suggestions regarding:

1. Headings not at present found in this Index which should be there,
2. Firms listed erroneously, and
3. Other inaccuracies which may have crept in despite all precautions.

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2. List of the Laboratory Supply Houses. Under the heading "Apparatus, Laboratory," on page 3, are listed companies specializing in laboratory supplies, equipment, instruments and apparatus.

3. Directory of Manufacturers and sole representatives, with complete addresses and brief descriptions. *Pages 56-64.*

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ABRASION MACHINES
(See Testers, Abrasion)

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ACCELEROMETERS
Alpha Instrument Co.
American Askania Corp.
Brush Development Co.
Cambridge Inst. Co.
Commercial Eng. Labs.
Cramer & Co., Inc.
General Elec. Co.
Hathaway Inst. Co.
Kollsman Inst. Co.
Pioneer Inst. Co.
Ruska & Co.
Thwing-Albert Inst. Co.

ACIDIMETERS
Berg Mfg. Co.
Eimer & Amend
Hellige, Inc.
Henszey Co.
Ricker Inst. Co.
Rubicon Co.
Ruehfel Co.
Schultheis Corp.
Tagliabue Mfg. Co.
Uehling Instrument Co.

ACOUSTIMETERS (See Sound Level Meters)

AEROGRAPHS
Fuess, Inc.

AEROMETERS
Friez & Sons

AIR ANALYSIS APPARATUS (See Gas Analyzers, Air)

AIRCRAFT NAVIGATIONAL INSTRUMENTS
American Askania Corp.
Consol.-Ashcroft-Hancock
Fuess, Inc.
General Elec. Co.
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Hathaway Inst. Co.
Hickok Elec. Inst. Co.
Jaeger Watch Co.
Kollsman Inst. Co.
Machlett & Son
Moisture Register Co.
Pioneer Instrument Co.
Ricker Inst. Co.
Sperry Gyroscope Co.
RCA Manufacturing Co.
Schwien Engg. Co.
Simmonds Accessories
United Cinephone Corp.
Weston Elec. Inst. Corp.
Carl Zeiss, Inc.

AIRCRAFT POWER PLANT INSTRUMENTS
Beck Bros.
Bowser & Co.
Cambridge Inst. Co.
General Elec. Co.
Hays Corp.
Jaeger Watch Co.
Kenyon Instrument Co.
Kollsman Inst. Co.
Moisture Register Co.
Pioneer Instrument Co.
Ricker Inst. Co.
Thwing-Albert Inst. Co.
U. S. Gauge Co.
Weston Elec. Inst Corp.
Lewis Engg. Co.
Roller-Smith Co.
Westinghouse Elec. & Mfg.

AIR DISTANCE, Indicators & Recorders
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AIR FLOW METERS (See Flowmeters, Air)

AIR METERS (See Gas Meters, Positive)

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American Askania Corp.
Fuess, Inc.
Illinois Testing Labs.
Jaeger Watch Co.
Kollsman Inst. Co.
Pioneer Instrument Co.
Schwien Engg. Co.
U. S. Gauge Co.
Zernickow Co.

AIRSPEED INDICATOR TESTERS
Amthor Test. Inst. Co.
Jaeger Watch Co.
Pioneer Instrument Co.

ALARMS, Carbon Bisulphide
Bushnell & Nevins

ALARMS, Carbon Monoxide Mine Safety Appliances

ALARMS, Combustible Gas Mine Safety App. Co.

ALARMS, High, low water
Wright-Austin Co.
Yarnell-Waring Co.

ALARMS, Hydrogen Sulphide
Bushnell & Nevins
Johnson-Williams, Ltd.

ALARMS, Inflammable Gas
Bristol Co.
Davis Emergency Equip.
Engineering Labs., Inc.
Johnson-Williams, Ltd.
Leeds & Northrup Co.
Mine Safety Appliances
Viking Instruments, Inc.
Wheelco Instruments Co.

ALARMS, Liquid Level
Autocall Co.
Automatic Control Co.
Bailey Meter Co.
Bin-Dicator Co.
Boston Auto Gage Co.
Cutler-Hammer, Inc.
Inferno Co.
Lumenite Electric Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Mercoid Corp.
Morey & Jones, Ltd.
Reliance Gauge Column
Republic Flow Meters Co.
Tagliabue Mfg. Co.
Taylor Instrument Cos.
United Cinephone Corp.
Wheelco Instruments Co.
Yarnall-Warning Co.

ALARMS, SMOKE (See Smoke Density Indicators)

ALIDADES (See Surveying Instruments)

ALKALIMETERS
Ace Glass Inc.
Central Scientific Co.
Eimer & Amend
Fisher Scientific Co.
General Elec. Co.
Hellige, Inc.
Kimble Glass Co.
Rubicon Co.
Ruehfel Co.
Schultheis Corp.
Specialty Glass Co.
Tagliabue Mfg. Co.

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ALTIMETER TESTERS
Amthor Test. Inst. Co.
Fuess, Inc.
Kenyon Instrument Co.
Pioneer Instrument Co.

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Esterline-Angus Co.
General Electric Co.
Hickok Electrical Inst.
Reliance Instrument Co.
Roller-Smith Co.
Weston Electrical Inst.

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Burton-Rogers Co.
Cambridge Inst. Co.
Columbia Elec. Mfg.
De Jur-Amsco Corp.
Engelhard, Chas.
Ferranti Electric, Inc.
General Elec. Co.
Hickok Elec. Inst. Co.
King-Seeley Corp.
Lundquist Tool & Mfg.
Niagara Electrical Inst.
Norton Electrical Inst.
Precision Apparatus Corp.
Radio City Products Co.
Rawson Elec. Inst. Co.
Reliance Instrument Co.
Rochester Mfg. Co.
Roller-Smith Co.
Sensitive Research Inst.
Simpson Electric Co.
Therm-Electric Meters
Triplett Electrical Inst.
Welch Mfg. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Wheelco Inst. Co.

AMMETERS, Microammeters
Burton-Rogers Co.
Cambridge Inst. Co.
Clough-Brengle Co.
De Jur-Amsco Corp.
Engelhard, Chas.
Etna Elec. Works
General Elec. Co.
Hickok Elec. Inst. Co.
Pfaltz & Bauer, Inc.
Radio City Products Co.
RCA Manufacturing Co.

AMMETERS, Microammeters (Continued)
Rawson Elec. Inst. Co.
Roller-Smith Co.
Sensitive Research Inst.
Simpson Elec. Co.
Supreme Instruments
Tagliabue Mfg. Co.
Triplett Electrical Inst.
Triumph Mfg. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Wheelco Inst. Co.

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Allen Elec. & Equip. Co.
Bristol Co.
Burton-Rogers Co.
Cambridge Inst. Co.
Clough-Brengle Co.
De Jur-Amsco Corp.
Engelhard, Chas.
Esterline-Angus Co.
Etna Elec. Works
General Elec. Co.
Hickok Elec. Inst. Co.
Lundquist Tool & Mfg.
Norton Electrical Inst.
Precision Apparatus Corp.
Radio City Products Co.
Rawson Elec. Inst. Co.
RCA Manufacturing Co.
Roller-Smith Co.
Sensitive Research Inst.
Simpson Elec. Co.
Supreme Inst. Corp.
Tagliabue Mfg. Co.
Triplett Electrical Inst.
Welch Mfg. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Wheelco Inst. Co.

AMMETERS, Recording
Autocall Co.
Bristol Co.
Cambridge Inst. Co.
Engelhard, Chas.
Esterline-Angus Co.
General Elec. Co.
Leeds & Northrup Co.
Roller-Smith Co.
Tagliabue Mfg. Co.
Westinghouse Elec. & Mfg.

AMMETERS, Split Core
Columbia Elec. Mfg.
General Elec. Co.
HD Elec. Co.

AMMETERS, Split Core (Continued)
Norton Electrical Inst.
Roller-Smith Co.
Rubicon Co.
Western Electro-Mech.
Weston Elec. Inst. Corp.

AMMETERS, Surge-Crest
General Elec. Co.
Roller-Smith Co.

AMMETERS, Thermionic
Victor J. Andrew
General Radio Co.

AMMETERS, Thermo
American Elec. Sales Co.
Cambridge Inst. Co.
Etna Elec. Works
General Elec. Co.
Hickok Elec. Inst. Co.
Rawson Elec. Inst. Co.
Roller-Smith Co.
Sensitive Research Inst.
Therm-Electric Meters
Triplett Electrical Inst.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

AMMETERS, Zero-Resistance
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General Radio Co.
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For addresses, see pages 56-64

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RCA Manufacturing Co.
Thordarson Elec. Co.
Triumph Mfg. Co.
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Microvolts, Inc.
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RCA Manufacturing Co.
Remler Co., Ltd.
Triumph Mfg. Co.

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Cambridge Instrument
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Dietert Co., Harry W.
Fisher Scientific Co.
Friez & Sons
Industrial Instruments
Leeds & Northrup Co.
Machlett & Son, E.
Mine Safety Appliances
National Technical Labs.
Rubicon Co.
Sargent & Co., E. H.
Scientific Glass App.
Tagliabue Mfg. Co., C. J.
United Cinephone Corp.

ANALYZERS, Gas Composition, Recording & Indicating (See Gas Analyzers)

ANALYZERS, Ignition System
Hickok Electrical Inst.
Hy Ef Electrical Products
Lantz-Phelps Corp.
Nichoff & Co., C. E.

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Simpson Elec. Co.
Supreme Instruments
Triplett Elec. Inst. Co.
Triumph Mfg. Co.
United Cinephone Corp.
Weston Elec. Inst. Corp.

ANALYZERS, Sound
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General Radio Co.
Hickok Elec. Inst. Co.
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American Meter Co.
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Braun Corp.
Braun-Knecht-Heimann
Buehler, Adolph I.
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Burrell Tech. Supply Co.
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Chicago Apparatus Co.
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Eastern Scientific Co.
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Frober-Faybor Co.
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General Radio Co.
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G-M Labs.
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Griner Co., A. J.
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Maris Co., John M.
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National Scientific Corp.
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New York Scien. Supply
Pacific Biological Labs.
Palo-Myers, Inc.
Phipps & Bird, Inc.
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Rascher & Betzold
RCA Manufacturing Co.
Refinery Supply Co.
Rieker Inst. Co.
Robertson & Co.
Rochester Lab. Supply
Roemer Drug Co.
Rohrbach Co., George
Rupp & Bowman Co.
Sargent & Co.
Schaar & Company
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Scientific Inst. Co.
Scientific Supplies Co.
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Standard Glass App.
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University Apparatus Co.
Victor Equipment Co.
Walker & Co., Geo. T.
Ward's Natural Science
Welch Mfg. Co.
Western Machinery Co.
Western Scientific Co.
Wheaton Co., T. C.
Wilkens-Anderson Co.
Will Corporation
Williams Apparatus Co.
Williams, Brown & Earle
Woods "Lab. Apparatus"
Yonkers Lab. Supply Co.

APPARATUS, Laboratory, Thermal Syndicate Ltd. Fused Quartz

APPARATUS, Laboratory, Glass
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American Inst. Co.
Boekel & Co.
Central Scientific Co.
Chicago Apparatus Co.
Clay-Adams Co.
Corning Glass Works
Eimer & Amend
Fischer & Porter
Fish-Schurman Co.
Fisher Scientific Co.
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Griebel Instrument Co.
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Machlett & Son
Microchemical Service
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Philadelphia Therm. Co.
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Refinery Supply
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Sargent & Co.
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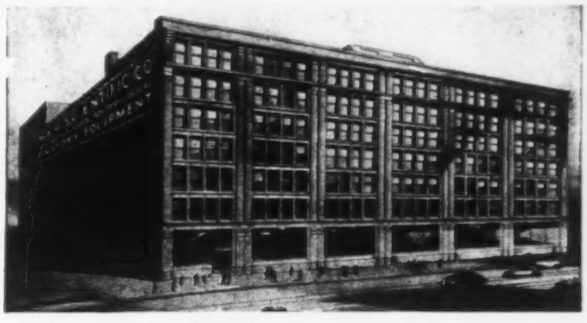

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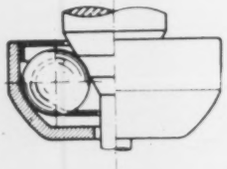

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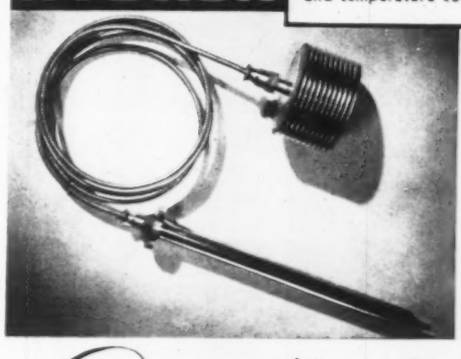

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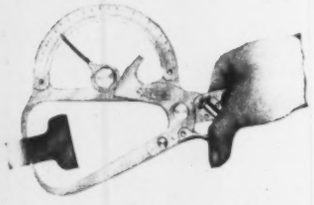

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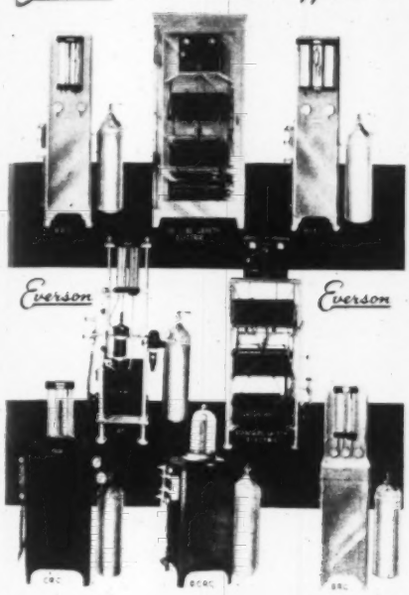

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Zeiss, Inc.

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Industrial Instruments
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Central Scientific Co.
Gow-Mac Instrument Co.
Lantz-Phelps Corp.
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CELLS, Kerr
Batcher, Ralph R.
General Physical Lab.

CELLS, Photoelectric
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Continental Elec. Co.
Eby, Inc.
Electronic Lab.
Electronic Prod. Co.
General Elec. Co.
General Scientific Corp.
G-M Labs.
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Rehtron Corp.
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United Cinephone Corp.
Vacutron, Inc.
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Eppley Lab.
Leeds & Northrup Co.
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Fisher Scientific Co.
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Richardson Scale Co.
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CHLORINE TESTING APPARATUS (See Testers, Chlorine)

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Thordarson Elec. Co.
United Transformer Corp.

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Esterline-Angus Co.
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Jaeger Watch Co.
Jardur Import Co.
Pierce Watch Co.
Precision Ther. & Inst.

CHRONOMETERS (See Watches)

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Federal Pneumatic Sys.

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Sperry-Sun Well Surveying

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General Elec. Co.
Howard Clock Products
International Bus. Mach.
Paragon Electric Co.
Standard Elec. Time
Stromberg Electric Co.
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General Elec. Co.
Howard Clock Products
International Bus. Mach.
Paragon Electric Co.
Standard Elec. Time Co.
Stromberg Electric Co.
Thomas Clock Co.
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CLOCKS Continued on next page

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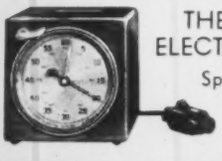

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Kollsman Inst. Co.
Standard Elec. Time

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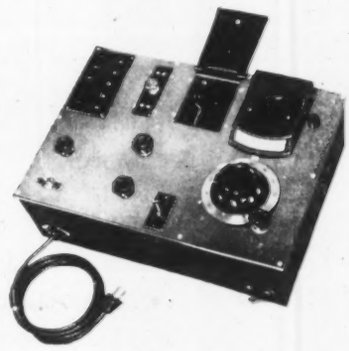

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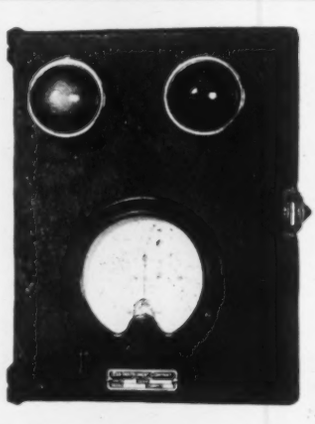

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Geophysical Inst. Co.
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COMPASSES, Telltale (See Compasses, Marine)

COMPENSATION, Magnetic
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Leitz, Inc.
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"CONTROL" — NOTE —

The following pages deserve close study. Note for example that after numerous "Controllers, Automatic" there are three classes of "Controllers, Manual." Look up also under "Regulators" for many types thus termed by usage. Also "Thermostats" and other commonly-used names of specific-purpose automatic controllers.

As a rule, Automatic Controllers are "instrument-like" while devices known as Controls (preceded by name of application) are simple, single-purpose devices.

CONTROL DRIVES (See Servo-Motors)

CONTROLS, AUTOMATIC (See Controllers, Automatic)

CONTROLLERS, AUTOMATIC (See also object of Measurement and Control)

CONTROLLERS, AUTOMATIC, Ammonia (See Ammonia Control Equipment)

CONTROLLERS, AUTOMATIC, Beater (See Controllers, Automatic, Consistency)

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Consol. Ashcroft-Hancock
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Foxboro Co.
Hagan Corp.
Henszey Co.
Kiely & Mueller
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McDonnell & Miller
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Natural Gas Equipment
Northern Equip. Co.
Republic Flow Meters Co.
Robertshaw Thermostat
Ruggles-Klingemann
Watts Regulator Co.
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Boiler Water Concentration
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Henszey Co.
Leeds & Northrup Co.
Republic Flow Meters Co.
Fischer & Porter

CONTROLLERS, AUTOMATIC, Bulk Material Level
Bin-Dicator Co.

CONTROLLERS, AUTOMATIC, Chlorine
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Askania Regulator Co.
Builders Iron Foundry
Everson Mfg. Co.
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National Meter Co.
Rascher & Betzold
Victor Equipment Co.
Wallace & Tiernan

CONTROLLERS, AUTOMATIC, Combustion
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Brooke Eng. Co.
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Cambridge Inst. Co.
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National Brass Co.
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Partlow Corp.
Republic Flow Meters
Ruggles-Klingemann
Selas Company
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CONTROLLERS, AUTOMATIC, Condensation
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Boylston Co.
Fisher Governor Co.
Friez & Sons
General Regulator Corp.
Industrial Instrument Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

CONTROLLERS, AUTOMATIC, Condenser Leakage
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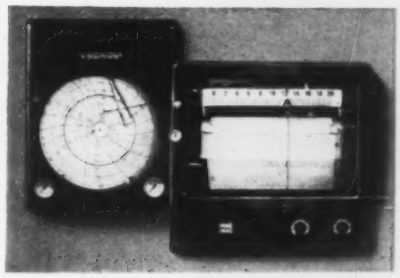

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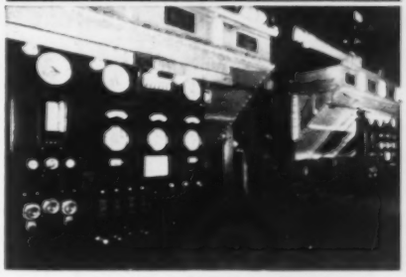
COMBUSTION CONTROL



All Sizes of Boilers All Types of Firing

Republic-Smoot combustion control systems are designed for all sizes of boilers and all types of fuel firing equipment.

CONSTANT STEAM PRESSURE
Automatically maintains a constant steam pressure by controlling the fuel and air input to the boilers in balance with the boiler load.

EFFICIENT COMBUSTION
Automatically maintains maximum combustion efficiency over entire range of boiler rating, by controlling simultaneously the fuel and air input to boiler in measured proportions and in a fixed ratio.

LOAD DISTRIBUTION
Automatically distributes load equally among all the boilers, or the load can be distributed between the boilers as desired.

WRITE FOR DATA BOOK No. S-21

REPUBLIC FLOW METERS CO.
2249 DIVERSEY PKWY., CHICAGO, ILLINOIS

For addresses, see pages 56-64

Controllers FOR AUTOMATIC REGULATION OF TEMPERATURE, COMBUSTION, pH, ETC.

Micromax Electric Control for temperature, etc., consists of Micromax instrument with valve-drive and relay developed and engineered as a unit to provide speed, sensitivity and accuracy. Simple, easy to install, low in maintenance.

Metermax Combustion Control is a unit system which automatically proportions fuel and air for efficient combustion in boiler and industrial furnaces. Special controls for special problems. Information on request.

LEEDS & NORTHRUP CO.
4984 STENTON AVENUE, PHILADELPHIA

MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES

CONTROLLERS, AUTOMATIC, Consistency
Brabender Corp.
Bristol Co.
D'Este Co.
Foxboro Co.
Green, Arthur B.
Mason-Neilan Regulator
Merritt Engr. & Sales
Northern Equip. Co.

CONTROLLERS, AUTOMATIC, Counting
Bristol Co.
Eagle Signal Corp.
Industrial Instrument Co.
Inspection Machinery Co.
Lumenite Electric Co.
Standard Electric Time
United Cinephone Corp.

CONTROLLERS, AUTOMATIC, Current (See Regulators)

CONTROLLERS, AUTOMATIC, Cycle
Autocall Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cramer & Co., Inc.
Denver Fire Clay Co.
Elec. Switch Corp.
Foxboro Co.
Hanlon-Waters, Inc.
Industrial Instrument Co.
Leeds & Northrup Co.
Mason-Neilan Reg. Co.
Monitor Controller Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

CONTROLLERS, AUTOMATIC, Damper
Area Regulators, Inc.
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Barber-Coleman Co.
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Cook Electric Co.
Davis Reg. Co.
Denver Fire Clay Co.
Detroit Lubricator Co.
Electronic Prod. Co.
Foster Eng. Co.
Foxboro Corp.
Gleason-Avery, Inc.
Hagan Corp.
Hanlon-Waters, Inc.
Hays Corp.
Johnson Service Co.
Kiely & Mueller
Leeds & Northrup Co.
Mason-Neilan Regulator
National Airoil Burner
Natural Gas Equipment
Penn Electric Switch Co.
Powers Regulator Co.
Preferred Utilities Mfg.
Republic Flow Meters
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Eng. Co., Inc.
Tagliabue Mfg. Co.
Watts Regulator Co.
White-Rodgers Electric
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Density
Acme Regulator Co.
Area Regulators, Inc.
Automatic Valve Control
Lumenite Electric Co.
Mine & Smelter Supply
Tagliabue Mfg. Co., C. J.
Taylor Instrument Cos.

CONTROLLERS, AUTOMATIC, Desuperheat
Area Regulators, Inc.
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Foxboro Corp.
Hagan Corp.
Leeds & Northrup Co.
Mason-Neilan Regulator
Mercon Regulator Co.
Northern Equip. Co.
Republic Flow Meters Co.
Spence Eng. Co., Inc.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.

CONTROLLERS, AUTOMATIC, Draft
Area Regulators, Inc.
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Barber-Coleman Co.
Boiler Room Equip.
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Crew Equip. Co.
Denver Fire Clay Co.
Foster Eng. Co.
Foxboro Co.
General Regulator Corp.
Gleason-Avery, Inc.
Hagan Corp.
Hays Corp.
Leeds & Northrup Co.
Mason-Neilan Regulator
National Airoil Burner
National Brass Co.
Preferred Utilities Mfg.
Republic Flow Meters
Ruggles-Klingemann
Tagliabue Mfg. Co.
Taylor Inst. Cos.

CONTROLLERS, AUTOMATIC, Feed Water
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Consol. Ashcroft-Hancock
Hagan Corp.
Hanlon-Waters, Inc.
Henszey Co.
Kiely & Mueller
Mason-Neilan Reg. Co.
McAlear Mfg. Co.
McDonnell & Miller
Mercon Regulator Co.
Natural Gas Equipment
Northern Equip. Co.
Republic Flow Meters
Ruggles-Klingemann
Schade Valve Mfg. Co.
Simplex Valve & Meter
Watts Regulator Co.
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Filter Rate
Cochrane Corp.
International Filter Co.
Mason-Neilan Reg. Co.
Taylor Inst. Cos.

CONTROLLERS, AUTOMATIC, Float
Allen-Bradley Co.
Autocall Co.
Automatic Control Co.
Automatic Temp. Control
Bailey Meter Co.
Cash Co.
Cochrane Corp.
Cutler-Hammer, Inc.
Davis Regulator Co.
Detroit Lubricator Co.
Furnas Electric Co.
Foster Engg. Co.

CONTROLLERS, Automatic, Float (Cont'd)
Foxboro Co.
Frick Co.
Hagan Corp.
Hanlon-Waters, Inc.
Kiely & Mueller
Mason-Neilan Regulator
McAlear Mfg. Co.
Mercon Regulator Co.
Penn Electric Switch
Powers Regulator Co.
Ruggles-Klingemann
Schade Valve Mfg. Co.
Simplex Valve & Meter
Spence Eng. Co., Inc.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Water Level Controls Co.

CONTROLLERS, AUTOMATIC, Flow
American Meter Co.
Area Regulators
Askania Regulator
Bailey Meter Co.
Brown Inst. Co.
Bristol Co.
Cash Co.
Denver Fire Clay Co.
Electrimatic Corp.
Fischer & Porter
Foster Engg. Co.
Foxboro Co.
General Regulator Corp.
Hagan Corp.
Hanlon-Waters, Inc.
International Filter Co.
Leeds & Northrup Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Mercon Regulator Co.
Republic Flow Meters
Simplex Valve & Meter
Spence Eng. Co., Inc.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Victor Equipment Co.
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Flow Proportioning
American Meter Co.
Area Regulators, Inc.
Askania Regulator Co.
Autocall Co.
Automatic Temp. Control
Bailey Meter Co.
Barber-Coleman Co.
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Builders Iron Foundry
Cash Co.
Cochrane Corp.
Cutler-Hammer, Inc.
Electronic Prod. Co.
Fischer & Porter
Foxboro Co.
General Regulator Corp.
Hagan Corp.
Hanlon-Waters, Inc.
Henszey Co.
Illinois Engr. Co.
International Filter Co.
Lammert & Mann Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Mercon Regulator Co.
Republic Flow Meters Co.
Reynolds Gas Regulator
Simplex Valve & Meter
Spence Engr. Co., Inc.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Vergilio Co.
Victor Equipment Co.
Wheelco Inst. Co.

CONTROLLERS, AUTOMATIC, Fluid Proportioning (See Controllers, Automatic, Flow Proportioning)

CONTROLLERS, AUTOMATIC, Frequency (See Regulators)

CONTROLLERS, AUTOMATIC, Furnace
Am. Gas Furnace Co.
Area Regulators, Inc.
Askania Regulator Co.
Automatic Elec. Mfg. Co.
Automatic Temp. Control
Bailey Meter Co.
Barber-Coleman Co.
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Cook Electric Co.
Defender Automatic Reg.
Denver Fire Clay Co.
Detroit Lubricator Co.
Dickson Co.
Friez & Sons
Fulton Sylphon Co.
General Regulator Corp.
Gleason-Avery, Inc.
Hagan Corp.
Hays Corp.
Industrial Engr. Corp.
Johnston Mfg. Co.
Leeds & Northrup
Lindberg Eng. Co.
Marsh Corp.
Mason-Neilan Regulator
McCorkle Co.
National Airoil Burner
National Brass Co.
Natural Gas Equipment
Paragon Electric Co.
Partlow Corp.
Payne Furnace & Supply
Penn Electric Switch
Perfex Corp.
Pyrometer Inst. Co.
Republic Flow Meters
Ruggles-Klingemann
Spence Engineering Co.
Spencer Thermostat Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
United Cinephone Corp.
Wheelco Inst. Co.
White Mfg. Co.
White-Rodgers Electric
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Gas Mixing (See Controllers, Automatic, Flow Proportioning)

CONTROLLERS, AUTOMATIC, Granular Material Level
Bin-Dicator Co.

CONTROLLERS, AUTOMATIC, Gravity
Area Regulators, Inc.
Askania Regulator Co.
Bailey Meter Co.
Binckley, G. S.
Foxboro Co.
Mason-Neilan Regulator
Mine & Smelter Supply
Tagliabue Mfg. Co.
Taylor Inst. Cos.

CONTROLLERS, AUTOMATIC, Humidity
American Moistening Co.
Area Regulators, Inc.
Atlas Valve Co.
Barber-Coleman Co.
Brabender Corp.

CONTROLLERS, Automatic, Humidity (Continued)
Bristol Co.
Brown Inst. Co.
Consol. Ashcroft-Hancock
Cramer & Co., Inc.
Detroit Lubricator Co.
Dietert Co.
Electronic Prod. Co.
Fenwal, Inc.
Foxboro Co.
Friez & Sons
General Controls Co.
H-B Inst. Co., Inc.
Industrial Inst. Co.
Johnson Service Co.
Leeds & Northrup Co.
Mason-Neilan Regulator
McDonnell & Miller
Moeller Instrument Co.
Moisture Register Co.
Parks-Cramer Co.
Penn Electric Switch
Phila. Thermometer Co.
Powers Regulator Co.
Robertshaw Thermostat
Sarco Co., Inc.
Scientific Inst. Co.
Supreme Elec. Prods.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Inst. Co.
Trerice Co., H. O.
Vaughn-G. E. Witt Co.

CONTROLLERS, AUTOMATIC, Humidity and Temperature (See Controllers, Automatic, Humidity and Controllers, Automatic, Temperature)

CONTROLLERS, AUTOMATIC, Lighting
Betts & Betts
Cutler-Hammer, Inc.
Luxtrol Co., Inc.
Paragon Electric Co.
United Cinephone Corp.
Weston Elec. Inst. Corp.
Zenith Electric Co.

CONTROLLERS, AUTOMATIC, Liquid Level
Allen-Bradley Co.
American Meter Co.
Area Regulators, Inc.
Askania Regulator Co.
Atlas Valve Co.
Autocall Co.
Bailey Meter Co.
Belfield Co.
Binckley, G. S.
Bin-Dicator Co.
Boylston Co.
Bristol Co.
Brown Inst. Co.
Builders Iron Foundry
Cash Co.
Cochrane Corp.
Consol. Ashcroft-Hancock
Cutler-Hammer, Inc.
Davis Reg. Co.
Electronic Prod. Co.
D'Este Co.
Elec. Indicator Co.
Fisher Governor Co.
Foster Engg. Co.
Foxboro Co.
Frick Co.
Furnas Electric Co.
General Controls Co.
General Regulator Corp.
Guardian Elec. Mfg. Co.
Hagan Corp.
Hanlon-Waters, Inc.
International Filter Co.
Johnson Service Co.
Kiely & Mueller
Klipfel Mfg. Co.
Lumenite Elec. Co.

CONTROLLERS, Automatic, Liquid Level (Cont'd)
Luxtrol Co., Inc.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Mercoid Corp.
Mercon Regulator Co.
National Airoil Burner
Natural Gas Equipment
Northern Equip. Co.
Paragon Electric Co.
Powers Regulators Co.
Precision Therm. & Inst.
Preferred Utilities Mfg.
Republic Flow Meters
Schade Valve Mfg. Co.
Simplex Valve & Meter
Spence Engineering Co.
Stets Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Uehling Instrument Co.
Water Levels Controls Co.
Watts Regulator Co.
Wheelco Inst. Co.
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Load (See Regulators)

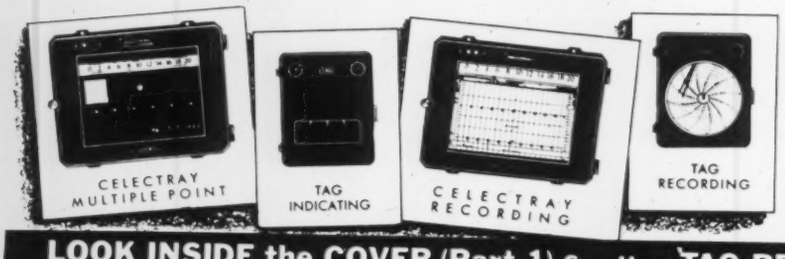
CONTROLLERS, AUTOMATIC, Moisture (See Controllers, Automatic, Humidity)

CONTROLLERS, AUTOMATIC, Phase (See Regulators)

CONTROLLERS, AUTOMATIC, Power Factor (See Regulators)

CONTROLLERS, AUTOMATIC, Pressure & Vacuum
Acme Regulator Co.
Allen-Bradley Co.
American Meter Co.
Area Regulators, Inc.
Askania Regulator Co.
Area Regulators, Inc.
Atlas Valve Co.
Autocall Co.
Automatic Control Co.
Automatic Temp. Control
Bailey Meter Co.
Baldwin-Southwark Corp.
Bastian-Blessing Co.
Belfield Co.
Boekel & Co.
Boylston Co.
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Builders Iron Foundry
Cash Co.
Connelly Iron Sponge Co.
Consol. Ashcroft-Hancock
Cutler-Hammer, Inc.
Davis Reg. Co.
D'Este Co.
Detroit Lubricator Co.
Dockson Co.
Eclipse Fuel Engg.
Emerson Apparatus Co.
Fisher Governor Co.
Ford-Reg. Valve Co.
Foster Engg. Co.
Foxboro Co.
Friez & Sons
Fulton Sylphon Co.
Furnas Electric Co.
Gas Appl. Specialties
General Controls Co.
General Electric Co.
General Regulator Corp.
Gen. Sales & Prod.
Hanlon-Waters, Inc.
Hays Corp.

(Continued on Page 12)



TAG CONTROLLERS

Wherever the control of plant operations presents a production problem, TAG Automatic Controllers of either the electrical or air-operated types offer competent solution. These TAG Instruments have opened the way to better processing methods by more precise control of temperature, pressure and the time in which they act. Write for catalogs.

C. J. TAGLIABUE MFG. CO.
Park & Nostrand Aves., Brooklyn, N. Y.

LOOK INSIDE the COVER (Part 1) *See How* **TAG RECORDERS** *Save You Money* TAG

For addresses, see pages 56-64

COMPLETE INSTRUMENTATION

for **INDUSTRIAL PROCESSES**

CONTROLLERS for temperature, pressure, absolute pressure, rate of flow and liquid level. Air-operated potentiometer controllers. Exclusive features resulting in unexcelled performance.

RECORDERS of temperature, pressure, flow level, motion, absolute pressure.

INDICATORS of temperature, pressure, flow and level.

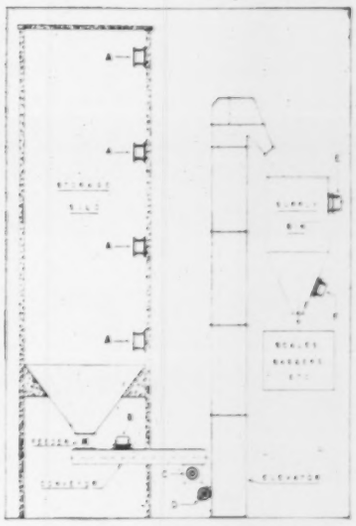
TRANSMISSION SYSTEMS, pneumatic type with exceptionally fast response. Electric signalling systems.

MASONEILAN

MASON-NEILAN REGULATOR CO.
1185 ADAMS ST., BOSTON, MASS., U. S. A.

BIN-LEVEL CONTROL

TYPICAL APPLICATIONS OF THE BIN-DICATOR



A. Bin-Dicators to indicate various levels of material in storage silo. (Can be mounted inside or out).

B. Bin-Dicator on screw conveyor cover—to indicate overfeed or underfeed—to automatically control (through solenoid valve) injection of compressed air into material—to provide uniform full feed of material.

C. Bin-Dicator at top of elevator boot to indicate overfeed, automatically shutting off conveyor in case of choking.

D. Bin-Dicator on lower part of elevator boot to indicate lack of feed.

E. & F. Bin-Dicators near top and bottom of bin—to indicate high and low level—to automatically shut off elevating machinery when bin gets full—to automatically shut off weighing or packing devices before bin becomes empty (thereby preventing errors due to lack of supply)—to automatically provide continuous supply of material in bin by starting and stopping elevator or conveyor as necessary.

NOTE: Variations in arrangement may of course be made, to provide practically any desired system of signalling or automatic control. Our engineering department will prepare detailed recommendations and wiring diagrams to meet YOUR requirements.

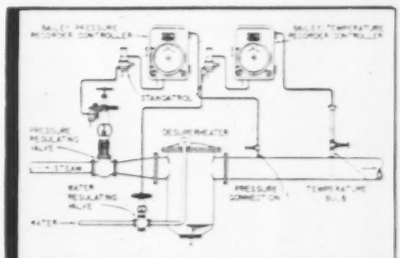
THE BIN-DICATOR COMPANY
14619 EAST JEFFERSON — DETROIT, MICHIGAN

FLAME-OTROL
Combustion Safeguard
FOR ANY KIND OF FUEL

An actually foolproof, instantaneous operating combustion safeguard that not only shuts off the fuel supply to the burner upon flame failure, but safeguards against interruption in its own electrical system, grounding of electrode and other dangerous conditions. It is workhorse as well as watchdog on the job.

Write for complete details.

Wheelco Instruments Co.
828-33 S. HALSTED STREET — CHICAGO, ILLINOIS



DESUPERHEATING & PRESSURE REDUCING CONTROL

● Bailey Meter Control of desuperheating and pressure reducing incorporates standard Bailey Recorder-Controllers for both pressure and temperature, as well as a special Bailey Reducing Valve equipped with valve positioner and air cooled packing gland.

The control system is air-operated and is arranged to maintain the desired final steam temperature by controlling the quantity of water fed to a cartridge type desuperheater. This temperature is measured by a sensitive bare bulb temperature recorder-controller with the temperature bulb located at the ● outlet of the desuperheater.

BAILEY METER COMPANY
1041 IVANHOE ROAD - CLEVELAND, O.
Bailey Meter Company Ltd., Montreal, Canada

Bailey FEED WATER Control

● Bailey Meter Company offers three distinct feed water control systems. They are (1) the Thermo-hydraulic Feed Water Regulator which is suitable for the majority of small boilers operating at relatively low pressures. This regulator operates from water level alone and is provided with a fully balanced tight seating V-port regulating valve designed to give a straight line characteristic. It offers the advantages of low installation cost, removable valve parts and independence of valve location.

(2) The Single-Element air-operated feed water control system is recommended for installations on which smooth regulation of feed water flow is desired, and a wide regulating range cannot be used. This system is controlled by water level alone as measured by a Bailey Boiler Drum Water Level Recorder.

(3) Bailey Three-Element feed water control is recommended for high capacity low water storage boilers operating at high pressures or for boilers operating at medium pressures with violent load fluctuations. This system is based on actual measurement of water flow to the boiler, steam flow from the boiler and water level within the boiler, and is adjusted primarily to control the rate of water flow to the boiler so that it equals the rate of steam flow from the boiler.

For detailed information consult Sweet's Engineering Catalogs or request bulletin ● No. 183.

BAILEY METER COMPANY
1041 IVANHOE ROAD - CLEVELAND, O.
Bailey Meter Company Ltd., Montreal, Canada

CONTROLLERS, Automatic, Pressure (Cont'd)
Hoke, Inc.
Hydraulic Press Co.
Illinois Engg. Co.
Industrial Inst. Co.
Klipfel Mfg. Co.
Lammert & Mann Co.
Leeds & Northrup Co.
Leslie Co.
Marsh Corp.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Mercoid Corp.
Mercon Regulator Co.
Natural Gas Equip. Inc.
Northern Equip. Co.
Penn Electric Switch
Perfex Corp.
Powers Regulator Co.
Precision Therm. & Inst.
Ranco Inc.
Republic Flow Meters
Reynolds Gas Regulator
Robertshaw Thermostat
Ruggles-Klingemann
Schade Valve Mfg. Co.
Schwien Eng. Co.
Scientific Inst. Co.
Spence Engineering Co.
Spencer Thermostat Co.
Sterling Eng. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co., H. O.
Uehling Instrument Co.
Vapor Recovery Systems
Vaughn-G. E. Witt Co.
Victor Equipment Co.
Ward Leonard Elec. Co.
Water Level Controls Co.
Watts Regulator Co.
Wheelco Inst. Co.
White-Rodgers Electric
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Pyrometric
Am. Gas Furnace Co.
Askania Regulator Co.
Automatic Temp. Control
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Burling Inst. Co.
Dickson Co.
Electronic Lab.
Electronic Prod. Co.
Engelhard, Chas.
Ferner Co.
Foxboro Co.
General Elec. Co.
G-M Labs
Hagan Corp.
Hoskins Mfg. Co.
Ill. Testing Labs.
Industrial Instrument Co.

CONTROLLERS, Automatic Pyrometric (Cont'd)
J-B-T Instruments, Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Lindberg Eng. Co.
Mason-Neilan Regulator
Partlow Corp.
Pyrometer Instrument Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Uehling Instrument Co.
Wheelco Inst. Co.

CONTROLLERS, AUTOMATIC, Radio Remote
Am. Automatic Electric
Guardian Elec. Mfg. Co.
RCA Manufacturing Co.
United Cinephone Corp.

CONTROLLERS, AUTOMATIC Rate-Volume (See Controllers, Automatic, Flow)

CONTROLLERS, AUTOMATIC, Refrigeration
Allen-Bradley Co.
Brown Inst. Co.
Cash Co.
Cutler-Hammer, Inc.
D'Este Co.
Detroit Lubricator Co.
Dickson Co.
Electrimatic Corp.
Frick Co.
Fulton Sylphon Co.
General Controls Co.
Illinois Engr. Co.
Lumenite Elec. Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Mercoid Corp.
Penn Electric Switch
Perfex Corp.
Phila. Thermometer Co.
Ranco, Inc.
Sarco Co., Inc.
Schade Valve Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
White-Rodgers Electric

CONTROLLERS, AUTOMATIC, RKVA (See Regulators)

CONTROLLERS, AUTOMATIC Specific Gravity (See Controllers, Automatic, Gravity)

CONTROLLERS, AUTOMATIC, Speed (See Tachometric below)

CONTROLLERS, AUTOMATIC, Stoker (See Controllers, Automatic, Furnace)

CONTROLLERS, AUTOMATIC, Strain-Rate & Stress-Rate
Baldwin-Southwark Corp.

CONTROLLERS, AUTOMATIC, Synchronizing (See Regulators)

CONTROLLERS, AUTOMATIC, Tachometric
Askania Regulator Co.
Bailey Meter Co.
Barbour Stockwell Co.
Brown Inst. Co.
Cutler-Hammer, Inc.
Foxboro Co.
General Regulator Corp.
Mason-Neilan Regulator
Moisture Register Co.
Monitor Controller Co.
Republic Flow Meters

CONTROLLERS, AUTOMATIC, Temperature (See Pyrometric above or Thermometric below)

CONTROLLERS, AUTOMATIC, Temperature-Time (See Controllers, Automatic Thermometric; Controllers, Automatic, Thermostatic; Controllers, Automatic, Time)

CONTROLLERS, AUTOMATIC, Thermometric
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Burling Inst. Co.
Consol. Ashcroft-Hancock
Dickson Co.
Edison Electrical Controls
Electrimatic Corp.
Electro-Medical Lab.
Emerson Apparatus Co.
Fish-Schurman Co.
Foxboro Co.
Friez & Sons
General Elec. Co.
General Regulator Corp.
Walter J. Halpern
H-B Inst. Co., Inc.
Ill. Testing Labs.
Lindberg Eng. Co.
Marsh Corp.
McAlear Mfg. Co.
Moeller Instrument Co.
Moisture Register Co.
Paragon Electric Co.
Parks-Cramer Co.
Partlow Corp.
Precision Therm. & Inst.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Wheelco Inst. Co.

CONTROLLERS, AUTOMATIC, Thermostatic
Accuracy Scientific Inst.
Allen-Bradley Co.
American Inst. Co.
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Barber-Coleman Co.
Bickel & Co.
Bristol Co.
Boiler Room Equip.
Brown Inst. Co.
Burling Inst. Co.
Bushnell & Nevins
Cook Electric Co.
Cramer & Co., Inc.
D'Este Co.
Detroit Lubricator Co.
Dickson Co.
Edison Electrical Controls
Ernstat Co.
Fenwal, Inc.
Fish-Schurman Co.
Friez & Sons
Foster Eng. Co.
Fulton Sylphon Co.
General Controls Co.
General Elec. Co.
Gleason-Avery, Inc.
H-B Inst. Co.
Halpern, Walter J.
Illinois Engr. Co.
Industrial Engr. Corp.
Johnson Service Co.
Kiely & Mueller
Klipfel Mfg. Co.
Leslie Co.
Marsh Corp.
McCorkle Co.
Mercoid Corp.
Moisture Register Co.
Partlow Corp.
Penn Electric Switch
Perfex Corp.
Phila. Thermometer Co.
Powers Regulator Co.
Precision Therm. & Inst.
Ranco Inc.
Rascher & Betzold
Robertshaw Thermostat
Ruggles-Klingemann
Sarco Co., Inc.
Spence Eng'neering Co.
Spencer Thermostat Co.
Sterling Eng. Co.
Struthers-Dunn
Tagliabue Mfg. Co.
Trerice Co.
Vaughn-G. E. Witt Co.
Weston Elec. Inst. Corp.
White Mfg. Co.
White-Rodgers Elec. Co.

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Am. Gas Accumulator
Automatic Elec. Mfg. Co.
Automatic Temp. Control
Bailey Meter Co.
Betts & Betts
Bristol Co.
Consol. Asheroft-Hancock
Cramer & Co., Inc.
Eagle Signal Corp.
Edison Electrical Prods.
Elec. Switch Corp.
Foxboro Co.
General Elec. Co.
Halpern, Walter J.
Hanlon-Waters, Inc.
Industrial Instrument Co.
Johnson Service Co.
Lux'rol Co., Inc.
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Mason-Neilan Regulator
Monitor Controller Co.
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Penn Electric Switch
Powers Regulator Co.
Stromberg Electric Co.
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Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thomas Clock Co., Seth
United Cinephone Corp.
Warren Telechron Co.
Zenith Electric Co.

CONTROLLERS, AUTOMATIC, Vacuum (See Controllers, Automatic, Pressure)

CONTROLLERS, AUTOMATIC, Valve (See Valve-Operating Devices)

CONTROLLERS, AUTOMATIC, Viscosity
Brabender Corp.
Bailey Meter Co.
General Elec. Co.
Green, Arthur B.
Scientific Inst. Co.
United Cinephone Corp.

CONTROLLERS, AUTOMATIC, Voltage (See Regulators)

CONTROLLERS, AUTOMATIC, Volume (See Controllers, Automatic, Flow)

CONTROLLERS MANUAL (Non-automatic), Field
Cutler-Hammer, Inc.
General Elec. Co.
Monitor Controller Co.
National Elec. Controller
Schaefer Bros. Co.
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.

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Cutler-Hammer, Inc.
Elec. Controller & Mfg.
Furnas Electric Co.
General Elec. Co.
Monitor Controller Co.
National Elec. Controller
Schaefer Bros. Co.
Superior Electric Co.
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.

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Allis-Chalmers Mfg. Co.
Beck Bros.
Cutler-Hammer, Inc.
Elec. Controller & Mfg.
General Elec. Co.
Monitor Controller Co.
National Elec. Controller
Ohmite Mfg. Co.
Rubicon Co.
Schaefer Bros. Co.
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.

CONTROL SYSTEMS (See Controllers, Automatic)

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COUNTERS, Colony
Fisher Scientific Co.
Spencer Lens Co.
Thomas Co., Arthur H.

COUNTERS, Cycle
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General Elec. Co.
Industrial Inst. Co.
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Paragon Electric Co.
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Southwestern Electronics
Standard Elec. Time Co.
States Co.
United Cinephone Corp.
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.

COUNTERS, Footage
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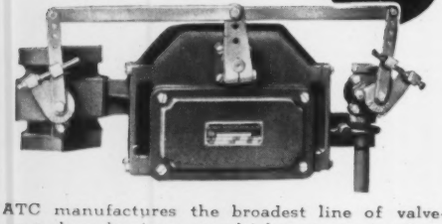
Bristol Co.
Durant Mfg. Co.
Elec. Tachometer Corp.
McDonnell Odometer Co.

(Continued on page 14)

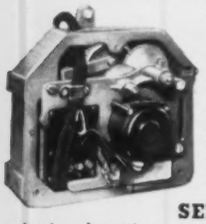
MOTOR-OPERATED CONTROLLERS

... by atc

For automatic control of
Temperature, Level, Pressure, Flow



ATC manufactures the broadest line of valve-control mechanisms, standard types ranging from the simplest "off-on" control to fully balancing of the medium against the demand at any moment. Thousands now in use are demonstrating their accuracy, ruggedness and dependability. All models are easily installed from instructions accompanying shipments. Illustrated is the ATC RELATROL which provides compensating valve positions in direct relation to deviation from the control setting. To show sturdiness and simplicity two views are shown; the upper a front view with two valves, the lower a back view with heavy protective cover removed. Ask about ATC before specifying any valve-control devices.



SEND for BULLETIN G-10
which describes the various standard units

Representatives in Principal Cities

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Taylor

FULSCOPE FLOW CONTROLLER

Write for complete information and catalogs.

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This revolutionary control instrument provides ultimate efficiency when applied to your most exacting temperature control problems. The combination of the highly sensitive Wheelco "Radio Principle" electronic control system and the time-proved potentiometric method of temperature measurement has established a degree of instantaneous control action heretofore unknown. Let us demonstrate how your production will benefit by this new control system.

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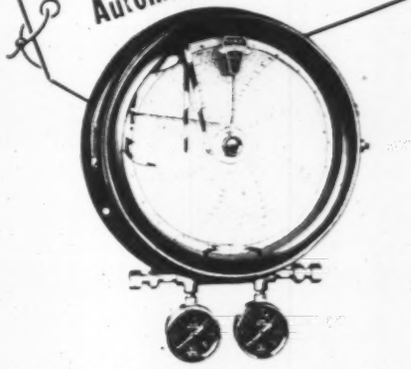
Wheelco Instruments Co.
1929-33 S. HALSTED STREET . . . CHICAGO, ILLINOIS

For addresses, see pages 56-64

FOXBORO
REG. U. S. PAT. OFF.
Automatic Controllers



Foxboro makes a comprehensive line of Air- and Electric-Operated Controllers for temperature, pressure, flow, liquid level and humidity. The control systems include every type from the simple Open-and Shut Control to the Foxboro Stabilog Control System —providing the ideal type of control for every job.

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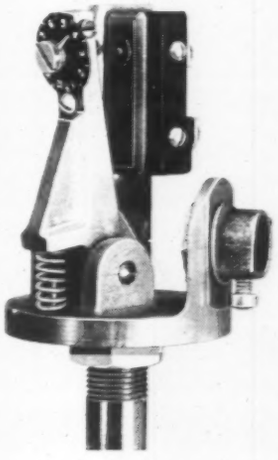
Why Guess at . . .
CONTROL or LIMIT TEMPERATURES



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Temperature Range Minus 100 to 600° F.
Other models to 1400° F.
Differentials ± ¼ deg. to ± 5 deg. F.
Will give accurate control in ovens, tanks, incubators, water baths, dryers, chemical processes, and air ducts.

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TEMPERATURE CONTROLLERS
Write for complete information and catalogs.
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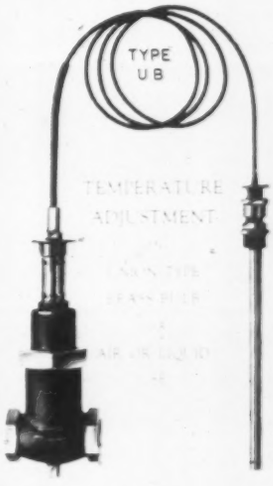

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FULLY BALANCED
2° Differential—5 Types
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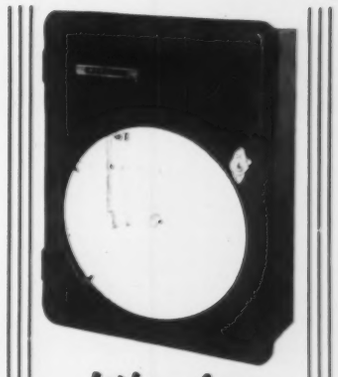

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Now the famous Wheelco Radio Principle control system that has been making control history for the past few years is combined with a highly efficient thermometer recording unit. This control and recording combination especially designed for existing requirements. The entire unit is encased in a dust and fume-proof case and chart is in clear view at all times.

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1929-33 S. HALSTED STREET CHICAGO, ILLINOIS

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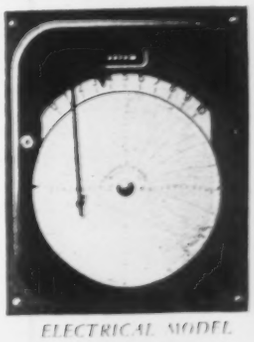

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MECHANICAL MODEL

The sensitive galvanometer detects the slightest change in rate of fluid flow, unaffected by friction or variations in voltage or frequency. Can be installed any distance from pipe line. The mechanical model develops an extremely high torque, is accurate in design, simple and rugged in construction.

ORIFICE METERS AND TYPE E WEIR METERS
—have the same Cochrane accuracy and simplicity and are highly regarded by users for their particular applications.

Write for Publication Nos. 2092, 2094, 2096
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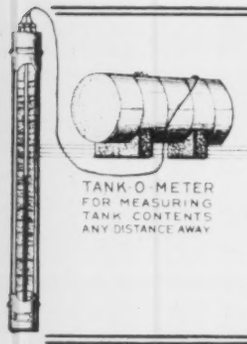
3120 N. 17th Street Philadelphia, Pa.

COCHRANE
FLOW METERS



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Absolute Pressure Recorders - Liquid Level Gauges

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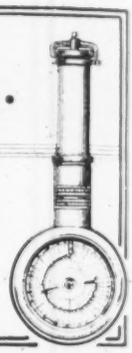

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Talley-Meter Co.
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Veeder-Root, Inc.

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Geophys.cal Instrument
Vacuttion, Inc.
Welch Scientific Co.

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Weston Elec. Inst. Corp.

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Moisture Register Co.
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Limonite Electric Co.
Paper-Stills Co.
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Production Instrument
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Weston E'ectrical Inst.

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Ohmer Register Co.
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Moisture Register Co.
Photobell Corp.
Ohmer Register Co.
Production Inst. Co.
Southwestern Electronics
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Roller-Smith Co.
Saxl Instrument Co.
Scott Co., Henry L.
Southwestern Electronics
Suter, Alfred
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(See Protractors, Course)

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Bruesh Development Co.
General Radio Co.
Premier Crystal Labs.
RCA Manufacturing Co.
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General Radio Co.
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CRYSTALS, Tourmaline
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(See Bottles,Cubic Feet)

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DECIBEL METERS (See Sound Level Meters)

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Leitz, Inc.
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DEMAND, Recorders (See Meters, Demand)

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DEMAND METERS (See Meters, Demand)

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Gaertner Scientific Corp.
Gurley, W. & L. E.
Zeiss, Inc., Carl

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Gen. Engg. & Model Wks.
Starrett Co.

DEPTH, Indicators, Liquid (See Gages, Liquid Level, Indicating)

DEPTH, Recorders, Liquid (See Gages, Liquid Level, Indicating)

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DETECTORS, Carbon Monoxide
Mine Safety Appliances

DETECTORS, Hydrogen Cyanide
Mine Safety Appliances

DETECTORS, Hydrogen Sulphide
Mine Safety Appliances

DETECTORS, Mercury Vapor
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Mine Safety Appliances

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DRAFT Controllers (See Controllers, Automatic Draft)

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Gurley, W. & L. E.
Kollmorgen Optical Co.
Kollsman Inst. Co.
Pioneer Instrument Co.

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Rascher & Betzold
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Geophysical Inst. Co.
Pfaltz & Bauer, Inc.

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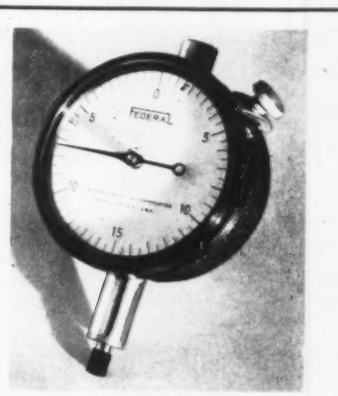
Pratt & Whitney

ENGINE INDICATORS
(See Indicators, Engine)

ENGINE INDICATOR REDUCING MOTION
(See Reducing Motion, Engine Indicator)



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DIAL INDICATORS
for
TESTING INSTRUMENTS

Improved Low Friction Federal Indicators lend themselves particularly to laboratory and scientific uses, where precision measurements must be exceptionally accurate. They are available in five sizes graduated from .00025" to 0.005".

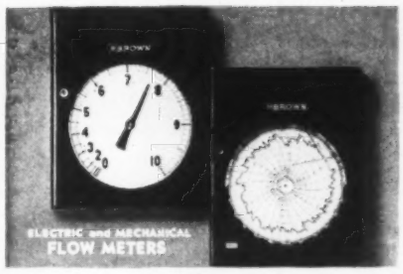
For catalog including latest developments write to—

FEDERAL PRODUCTS CORP.

1142 Eddy St., Providence, R. I.

Detroit—Chicago—Cleveland—New York

For addresses, see pages 56-64



For Controlling, Recording, Totalizing and Indicating the Flow of Fluids such as Steam, Water, Gas, Oil, etc.

Brown Flow Meters are available in two types, the Electric type and Mechanical type.

ELECTRIC TYPE: Complete equipment consists of three units, the orifice plate, manometer and instrument. Instrument can be located at a remote point from the orifice and manometer (point of flow measurement).

Because of this flexibility, it is particularly adaptable for applications where instruments are to be remotely located for control purposes.

MECHANICAL TYPE: Complete equipment consists of two units, the orifice plate and the instrument. The meter body is integral with the instrument. Readings are transmitted mechanically from meter body to instrument.

Write for Catalog 2006. THE BROWN INSTRUMENT COMPANY, *a division of Minneapolis-Honeywell Regulator Co.*, 4482 Wayne Avenue, Philadelphia, Pa.

BROWN FLOW METERS
AND
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
To Measure and Control is to Economize

BAILEY
Fluid Meters
For STEAM · LIQUIDS · GASES

● Bailey Fluid Meters are designed to indicate, record and integrate the flow of steam, liquids, or gases under practically any pressure or temperature condition.

A great variety of indicating, recording and integrating combinations are available for use with four distinct types of flow mechanisms.

This large variety of possible combinations enables the flow meter engineer to specify equipment which is pre-eminently suited to any flow measuring application.

When it is desired to place indicators, recorders and integrators at a considerable distance from the primary element, Bailey Synchro-Meters are available to provide electric transmission.

For detailed information consult Sweet's Engineering Catalogs or request a copy of bulletin No. 301.

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1041 IVANHOE ROAD · CLEVELAND, O.
Bailey Meter Company Ltd., Montreal, Canada

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Central Scientific Co.
Eimer & Amend
Machlett & Son

EUSCOPES
Bausch & Lomb Optical

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Brabender Corp.
Cambridge Inst. Co.
Ferner Co.
Gen. Engg. & Model Wks.
Hayes Scientific Apps.
Holz, Herman A.
Olsen Testing Machine

EYEGLASSES, POLARIZED (for Photoelastic Work or Strain Observation, etc.)
Polarizing Inst. Co.
Zeiss, Inc., Carl

FADE-OMETER
Atlas Elec. Devices Co.
Gen. Elec. Vapor Lamp

FAULT LOCATORS
Industrial Insts. Inc.
Leeds & Northrup
Rawson Elec. Inst. Co.
Rubicon Co.
Shallcross Mfg. Co.
Tobe Deutschmann Corp.

FEED WATER METERS
Bailey Meter Co.
Brown Inst. Co.
Builders Iron Foundry
Central Station Steam
Cochrane Corp.
Elec. Indicator Co.
Fischer & Porter
Foxboro Co.
Henszey & Co.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Simplex Valve & Meter
Tagliabue Mfg. Co.

FEED WATER TESTING APPARATUS
Allis-Chalmers Mfg. Co.
Central Scientific Co.
Cochrane Corp.
Electronic Products Co.
G. M. Mfg. Co., Inc.
Hellige, Inc.
Industrial Insts. Inc.
LaMotte Chemical Prod.
Leeds & Northrup Co.
Ptaltz & Bauer, Inc.
Taylor & Co., Inc., W. A.

FIELD RHEOSTATS (See Rheostats, Field)

FIELD-STRENGTH MEASURING SETS
Andrew, Victor J.
Ferris Inst. Corp.
McFarlin Co.
Microvolts, Inc.
RCA Manufacturing Co.
Tobe Deutschmann Corp.

FILLING MACHINES, Automatic
Anderson Bros. Mfg. Co.
Bowser & Co.
Gump Co., B. F.
Richardson Scale Co.
Syntron Company
Triangle Package Mach.

FILLING MACHINES, Bag
Gump Co., B. F.
Richardson Scale Co.
Syntron Company
Triangle Package Mach.

FILLING MACHINES, Barrel
Bowser & Co.

FILLING MACHINES, Can
Anderson Bros. Mfg.
Bowser & Co.
Gump Co., B. F.
Triangle Package Mach.

FILLING MACHINES, Carton
Gump Co., B. F.
Triangle Package Mach.

FILTERS, Light (See also Filters, Optical)
American Inst. Co.
Baird Associates
Black-Ray Lighting Co.
Central Scientific Co.
Corning Glass Works
Fish-Schurman Co.
Fuess, Inc.
Kollmorgen Optical Co.
Leitz, Inc.
Perkin, Elmer & Moffitt
Zeiss, Inc., Carl

FILTERS, Optical
Akatos, Inc.
Bausch & Lomb Optical
Electronic Laboratory
Fecker, J. W.
General Scientific Corp.
Goerz Amer. Optical Co.
Klett Mfg. Co.
Mico Instrument Co.
Pfaltz & Bauer, Inc.
Testrite Instrument Co.
Triumph Mfg. Co.
United Cinephone Corp.
Woetmann-Schuchhardt

FINDERS, VALVE BOX
Geophysical Inst. Co.

FIRE CONTROL INSTRUMENTS, MILITARY & NAVAL
Elec. Indicator Co.
Fecker, J. W.
Kern Co.
Kollmorgen Optical Co.
United Cinephone Corp.

FIRING DISKS
Veritas Firing System

FLASH POINT TESTERS (See Testers, Flash Point)

FLASHERS, Neon Tube
Automatic Elec. Mfg. Co.
Bacharach Industrial Inst.
Betts & Betts
Paragon Electric Co.
Sangamo Electric Co.

FLATNESS TESTERS (See Testers, Flatness, Light Wave)

FLATS, OPTICAL
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Clark & Sons
Fecker, J. W.
Ferner Co.
Fish-Schurman Co.
Fuess, Inc.
Gaertner Scientific Corp.
Goerz Amer. Optical Co.

FLATS, OPTICAL (Cont'd)
Kollmorgen Optical Co.
Master Optical Co.
Mico Instrument Co.
Perkin, Elmer & Moffitt
Scherr Co., Inc., George
Van Keuren Co.
Woetmann-Schuchhardt
Zeiss, Inc., Carl

FLATS, OPTICAL, Fused Quartz
Thermal Syndicate Ltd.

"FLOW"

(Flowmeters measure primarily RATE of flow. For positive or "quantity" fluid meters, see the numerous classes under "Meters")

FLOWMETERS, AIR (See Flowmeters, Gas)

FLOWMETERS, AREA Cone & Disk Type
Cochrane Corp.
Commercial Engg. Labs.
Fischer & Porter
Friez & Sons
National Meter Co.

FLOWMETERS, AREA Cylinder & Piston Type
American Inst. Co.
Bowser & Co.
Brown Inst. Co.
Fischer & Porter
National Meter Co.
New Jersey Meter Co.

FLOWMETERS, AREA Free Float Type
Am. Gas Furnace Co.
D'Este Co.
Fischer & Porter
Fish-Schurman Corp.
Hoke, Inc.
Schutte & Koerting Co.

FLOWMETERS, AREA Orifice & Plug Type
American Meter Co.
Bacharach Industrial Inst.
Binckley, George Sidney
Brown Inst. Co.
Cochrane Corp.
Fischer & Porter
Mason-Neilan Regulator
Republic Flow Meters
Taylor Inst. Cos.

FLOWMETERS, BLAST
Bacharach Industrial Inst.
Bailey Meter Co.
Brown Inst. Co.
Clark Blast Meter
Cochrane Corp.
Foxboro Co.
Meriam Co.
Tagliabue Mfg. Co.

FLOWMETERS, GAS
Ace Glass, Inc.
American Gas Furnace
American Inst. Co.
American Meter Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Binckley, G. S.
Bowser & Co.
Bristol Co.
Brown Inst. Co.
Builders Iron Fdry.
Clark Blast Meter
Cochrane Corp.
Commercial Engg. Labs.
D'Este Co.
Detroit Air Meter Co.
Eclipse Aviation
Elec. Indicator Corp.
Fischer & Porter
Fish-Schurman Co.
Foxboro Co.
Friez & Sons
Gas Appliance Specialties
Henszey Co.
Hoke, Inc.
Ill. Testing Labs.
International Filter Co.

(Continued on next page)

Foxboro offers a complete line of Flow Meters for measuring steam, gas, air, oil, water, acids and other fluids. These meters are of the orifice type—simple in design, powerful, with a straight-line motion that assures permanent calibration and long life. They can be furnished with direct-reading integrator to give total flow. Recorders may also be equipped with pressure, temperature and integrator pens.

For complete information write for Bulletin 200-3 and Bulletin 692. The Foxboro Company, 46 Neponset Avenue, Foxboro, Mass., U.S.A. Branch offices in 25 Principal Cities.

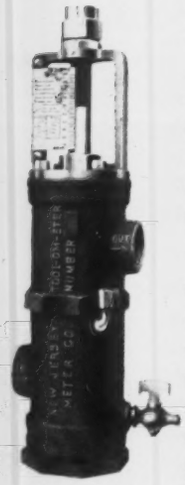
RING BALANCE
INSTRUMENT CO.
2511 WEST 24th STREET
CHICAGO, ILL.

Taylor
DIAL-TYPE FLOW INDICATORS
Write for complete information and catalogs.
Taylor Instrument Companies
ROCHESTER, N.Y. TORONTO, CANADA

For addresses, see pages 56-64

New Jersey Air Meters

TOOL-OM-ETER and DRILL-OM-ETER

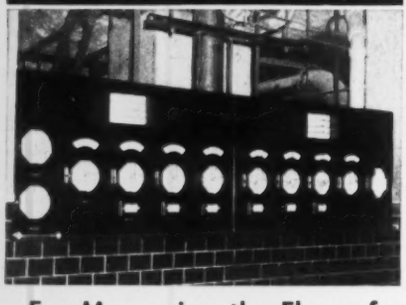


Measure the flow of Compressed Air to any process or tool. Guide the maintenance of pneumatic equipment in effective working condition.

These meters are of the constant head, variable orifice type, simple, reliable, portable, only one moving part. Used on air and other gases at 1-300 lb.

New Jersey Meter Co.
PLAINFIELD, N. J.

FLOW METERS



For Measuring the Flow of Steam-Water-Gas-Air-Oil

WORKING PRESSURES
Republic meters are available for all working pressures up to 5000 lb. per sq. in.

RANGE EASILY CHANGED
The range of a Republic meter can be easily and quickly changed by merely changing the range tube.

READING INSTRUMENTS
The Republic indicator, recorder and integrator operate independently of each other and can be supplied separately or in combination. They are remote reading.

EASILY READ
The indicator scale and the recorder chart all have uniform graduations and are direct reading. The integrator has a large cyclometer type dial.

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Taylor FLOW RECORDERS

Write for complete information and catalogs.

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FLOWMETERS, Gas, Indicating (Cont'd)
Jensen Inst. Co.
Kollsman Inst. Co.
Lambert Meter Co.
Leeds & Northrup
Leupold, Volpel & Co.
Mason-Neilan Regulator
Meriam Co.
Morey & Jones, Ltd.
National Meter Co.
New Jersey Meter Co.
Republic Flow Meters
Schutte & Koerting Co.
Scientific Glass Apparatus
Selas Company
Simplex Valve & Meter
Spray Engg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Victor Equipment Co.

FLOWMETERS, LIQUID (See Flowmeters, Gas)

FLOWMETERS, Open-Stream
Bristol Co.
Builders Iron Fdry.
Cochrane Corp.
Leupold Volpel & Co.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Scientific Inst. Co. Calif.
Simplex Valve & Meter

FLOWMETERS, ORIFICE, and NOZZLE
Ace Glass Inc.
American Meter Co.
Askania Regulator Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Brackley, G. S.
Bristol Co.
Brown Inst. Co.
Builders Iron Foundry
Cochrane Corp.
Commercial Engg. Labs.
Elmer & Amend
Fischer & Porter
Foxboro Co.
Hoke, Inc.
Jensen Inst. Co.
Lambert Meter Co., Inc.
Leeds & Northrup Co.
Leupold, Volpel & Co.
Mason-Neilan Regulator
Meriam Co.
Morey & Jones, Ltd.
Permutit Co.
Pgh. Equitable Meter
Republic Flow Meters
Ruska & Co., Inc.
Scientific Glass Apparatus
Scientific Inst. Co.
Simplex Valve & Meter
Tagliabue Mfg. Co.
Taylor Inst. Cos.

FLOWMETERS, Pitot Tube
Am. Blower Corp.
American Meter Co.
Askania Regulator Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Brackley, G. S.
Bristol Co.
Brown Inst. Co.
Builders Iron Foundry
Cambridge Inst. Co.
Central Scientific Co.
Cochrane Corp.
Defender Automatic Reg.
Detroit Air Meter Co.
Foxboro Co.
Friez & Sons
Fuess, Inc.
Kollsman Inst. Co.
Meriam Co.
Morey & Jones, Ltd.
Pitometer Log Corp.
Precision Therm. & Inst.
Refinery Supply Co.
Republic Flow Meters
Simplex Valve & Meter
Taylor Inst. Cos.

FLOWMETERS, Steam
Am. Dist. Steam Co.
American Meter Co.
Bailey Meter Co.
Brackley, G. S.
Bristol Co.
Brown Inst. Co.
Builders Iron Fdry.
Cochrane Corp.
Foxboro Co.
Jensen Inst. Co.
Leeds & Northrup Co.
Mason-Neilan Regulator
Meriam Co.
Morey & Jones, Ltd.
Republic Flow Meters
Simplex Valve & Meter
Tagliabue Mfg. Co.
Taylor Inst. Cos.

FLOWMETERS, Vane
Autocall Co.
Detroit Air Meter Co.
Friez & Sons
Ill. Testing Labs.
Mason-Neilan Regulator
Simplex Valve & Meter

FLOWMETERS, Venturi
Bailey Meter Co.
Brackley, G. S.
Bristol Co.
Brown Inst. Co.
Builders Iron Foundry
Cochrane Corp.
Foxboro Co.
International Filter Co.
Jensen Inst. Co.
Leupold, Volpel & Co.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Simplex Valve & Meter
Taylor Inst. Cos.

FLOWMETERS, Weir
Bailey Meter Co.
Brackley, G. S.
Bristol Co.
Brown Inst. Co.
Builders Iron Fdry.
Cochrane Corp.
Elec. Indicator Corp.
Foxboro Co.
Gurley, W. & L. E.
Leupold, Volpel & Co.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Simplex Valve & Meter
Taylor Inst. Cos.

FLUE GAS ANALYZERS (See Gas Analyzers, Flue Gas)

FLUID METER, GAS (See Gas Meters)

FLUID METERS, LIQUID (See Meters, Liquid)

FLUID METERS, QUANTITY (See Gas Meters; Meters, Current; Meters, Liquid)

FLUORESCENT CHEMICALS
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Central Scientific Co.
Pfaltz & Bauer, Inc.
Patterson Screen Co.

FLUORESCENT MERCURY VAPOR TUBES EMITTING WHITE LIGHT (See Light Sources)

FLUOROSCOPES
General Electric X-Ray
Patterson Screen Co.
Westinghouse X-Ray Co.

FLUXMETERS
Annin Co.
Cambridge Inst. Co.
Central Scientific Co.
General Elec. Co.
Leeds & Northrup Co.
Rawson Electrical Inst.
Rubicon Co.
Sensitive Research Inst.

FOLDING ENDURANCE TESTERS (PAPER) (See Testers, Folding Endurance)

FOOT BLOCKS
Ford Motor Co.

FOOT CANDLE METERS
Central Scientific Co.
De Jur-Amsco Corp.
General Elec. Co.
G-M Labs.
Intercontinental Market.
Loewenberg, F.
Luxtrol Co., Inc.
Pfaltz & Bauer, Inc.
United Cinephone Corp.
Weston Elec. Inst. Corp.

FOREWARN DETECTOR, for locating hidden weapons (See Detectors, Metal)

FORKS, Synchronization
Elec. Tachometer Corp.
Gaertner Scientific Corp.
Riverbank Laboratories

FORKS, Tuning
Clay-Adams Co.

FORKS, Tuning, Electrically Driven
Cambridge Inst. Co.
Central Scientific Co.
Chicago Apparatus Co.
Elec. Tachometer Corp.
Engineering Labs., Inc.
Gaertner Scientific Corp.
General Radio Co.
Hathaway Inst. Co.
Riverbank Laboratories
Welch Mfg. Co.

FORKS, Vacuum Driven
Cambridge Inst. Co.
Gaertner Scientific Corp.
Riverbank Laboratories

FRACTIONAL HORSE-POWER MOTORS (See Motors, Fractional Horsepower)

FREENESS TESTERS (See Testers, Freeness)

FREQUENCY METERS, Controlling
General Elec. Co.
Leeds & Northrup Co.

FREQUENCY Meters, Electronic
De Jur-Amsco Corp.
General Radio Co.
RCA Manufacturing Co.

FREQUENCY METERS, Indicating
General Elec. Co.
General Radio Co.
Hickok Elec. Inst. Co.

FREQUENCY METERS, Indicating (Cont'd)
Leeds & Northrup Co.
RCA Manufacturing Co.
Roller-Smith Co.
Sensitive Research Inst.
Westinghouse Elec & Mfg.
Weston Elec. Inst. Corp.

FREQUENCY METERS, Recording
Bristol Co.
Esterline-Angus Co.
General Elec. Co.
Leeds & Northrup Co.
Roller-Smith Co.
Warren Telechron Co.
Westinghouse Elec & Mfg.

FREQUENCY METERS, Standards
Bliley Electric Co.
Ferris Inst. Corp.
RCA Manufacturing Co.

FREQUENCY METERS, Vibrating Reeds
Riddle Co., Jas. G.

FRITTED GLASS FILTERS & APPARATUS
Central Scientific Co.
Fish-Schurman Co.
Pfaltz & Bauer, Inc.

FUEL ANALYSIS APPARATUS
Central Scientific Co.
Elmer & Amend
Machlett & Son
Parr Instrument Co.
Precision Scientific Co.
Sargent & Co.
Tagliabue Mfg. Co.

FUEL FLOW INDICATORS
Askania Regulator Co.
Autocall Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Commercial Eng. Labs.
Eclipse Aviation
Fischer & Porter
Foxboro Co.
Hagan Corp.
Mason-Neilan Regulator
National Airoil Burner
Taylor Inst. Cos.
Victor Equipment Co.

FURNACE CONTROL SYSTEMS (See Controllers, Automatic)

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Hamilton Mfg. Co.
Kewaunee Mfg. Co.
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Laboratory Const. Co.

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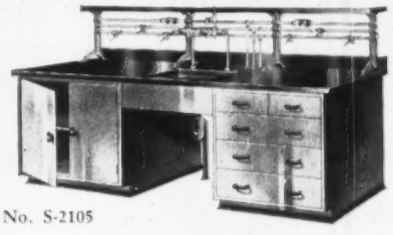

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HAYS ORIGINATED and perfected the dry or diaphragm type of draft gage and today Hays Draft Gages are standard equipment in thousands of the nation's boiler rooms.

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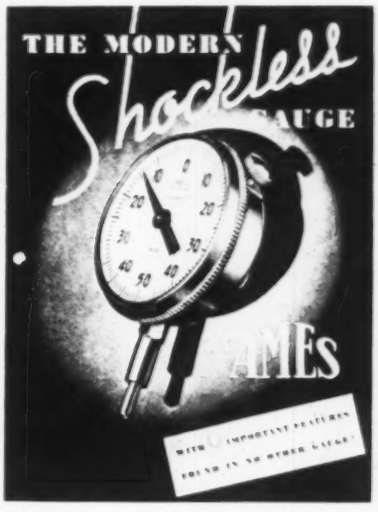
MICHIGAN CITY, INDIANA, U.S.A.



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are steadily replacing less durable ones on measuring jobs where rough treatment is apt to damage the sensitive mechanisms. They accurately indicate the slightest size variations and have several other exclusive features besides the shock-absorber. Send for your copy of the bulletin describing them.

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Sjostrom Co.
Southern Desk Co.
Welch Mfg. Co.

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Meter Devices Co.

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Ford Motor Co.
Pratt & Whitney
Van Keuren Co.

GAGE GLASS ILLUMINATORS
Weigle Supply Co.

GAGE TESTERS, Deadweight
American Inst. Co.
Amthor Testing Inst. Co.
Ashton Valve Co.
Consol. Ashcroft-Hancock
Crosby Steam Gage Co.
Holz, Herman A.
Olsen Testing Machine
Refinery Supply Co.
Star Brass Mfg. Co.

GAGE TESTERS, Fluid-scale
Crosby Steam Gage Co.

GAGE TESTERS, Liquid-column
Consol. Ashcroft-Hancock

GAGES (See also object of Measurement and control)

GAGES, Absolute Pressure
Bailey Meter Co.
Brinkley, G. S.
Bristol Co.
Brown Inst. Co.
Consol. Ashcroft-Hancock
Emery Co.
Foxboro Co.
Kollsman Inst. Co.
Mason-Neilan Regulator
Moeller Instrument Co.
Precision Therm. & Inst.
Scientific Inst. Co.
Taglabue Mfg. Co.
Taylor Inst. Cos.
Uehling Instrument Co.
United States Gauge Co.
Victor Equipment Co.

GAGES, Air
Ashton Valve Co.
Bailey Meter Co.
Bastian-Blessing Co.
Bristol Co.
Consol. Ashcroft-Hancock
Detroit Air Meter Co.
Foxboro Co.
Friez & Sons
Lambert Meter Co., Inc.
Marsh Corp.
Mason-Neilan Regulator
Rochester Mfg. Co.
Star Brass Mfg.
Taglabue Mfg. Co.
Trerice Co.
Uehling Inst. Co.
U. S. Gage Co.
Victor Equipment Co.

GAGES, Alarm
Ashton Valve Co.
Bailey Meter Co.
Bristol Co.
Consol. Ashcroft-Hancock
Crosby Steam Gage
Foxboro Co.
Marsh Corp.
Mason-Neilan Regulator
Precision Therm. & Inst.
Star Brass Mfg.
Trerice Co.
U. S. Gage Co.

GAGES, Amplifying
Coats Mach. Tool Co.
Comtor Co.
Federal Prod. Corp.
North Side Tool Co.
Precision Gage & Tool
Sayl Inst. Co.
United Cinephone Corp.

GAGES, Automatic Sorting
Instrument Specialties Co.

GAGES, Bore
Brown & Sharpe
Comtor Co.
Federal Prod. Corp.
Pratt & Whitney
Scherr Co.
Sheffield Gage

GAGES, Bourdon
Ashton Valve Co.
Bailey Meter Co.
Baldwin-Southwark Corp.
Bastian-Blessing Co.
Belfield Co.
Bristol Co.
Brown Inst. Co.
Consol. Ashcroft-Hancock
Crosby Steam Gage
Dickson Co.
Emery Co.
Foxboro Co.
Hays Corp.
Helse Bourdon Tube Co.
Hoke, Inc.
Improved Gauge Mfg.
Marsh Corp.
Mason-Neilan Regulator
Metered Corp.
Republic Flow Meters
Star Brass Mfg. Co.
Taglabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
United States Gauge Co.

GAGES, Caliper (Dial)
Brown & Sharpe
Federal Prod. Corp.
Glogau & Co.
Starrett Co.

GAGES, Center
Lufkin Rule Co.
Millers Falls Co.
Starrett Co.
Union Tool Co.

GAGES, Comparator
Ames Co., B. C.
Coats Mach. Tool Co.
Comtor Co.
Federal Prod. Corp.
Gaertner Scientific Corp.
General Engg. & Model
Instrument Specialties Co.
Jones & Lamson Machine
North Side Tool Co.
Pratt & Whitney
Precision Gage & Tool
Sayl Inst. Co.
Scherr Co.
Sheffield Gage
United Cinephone Corp.

GAGES, Compression
Allen, Elser & Equip.
Bacharach Indus. Inst.
G. M. Co. Mfg.
Riehle Div.
Sayl Inst. Co.
Toledo Scale Co.
United States Gauge Co.

GAGES, Cylinder
Ames Co., B. C.
Coats Mach. Tool
Comtor Co.
Federal Prod. Corp.
Lufkin Rule Co.
Pratt & Whitney
Starrett Co.
United Cinephone
Victor Equipment

GAGES, Depth, Linear
Ames Co., B. C.
Brown & Sharpe
Glogau & Co.
Instrument Specialties
Lufkin Rule Co.
Pratt & Whitney
Starrett Co.
Union Tool Co.

GAGES, Depth, Navigational
Geophysical Inst. Co.

GAGES, Dial, Machinists'
Ames Co., B. C.
Brown & Sharpe
Chicago Dial Ind.
Federal Prod. Corp.
Perner Co.
Genalex Andrew
General Engg. & Model
Randall, Frank E.
Starrett Co.
Waltham Dial Gage

GAGES, Differential Pressure
American Meter Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Brinkley, G. S.
Boiler Room Equip.
Bristol Co.
Brown Inst. Co.
Consol. Ashcroft Hancock
Cross Equip. Co.
Crosby Steam Gage
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Ellison Draft Gage Co.
Foxboro Co.
Friez & Sons
Fuess, Inc.
Gas Appliance Specialties
Hays Corp.
Jensen Inst. Co.
Lambert Meter Co.
Mason-Neilan Regulator
Meriam Co.
Moeller Instrument
Morey & Jones, Ltd.
Pittsburgh Lab. Corp.
Precision Therm. & Inst.
Preferred Utilities Mfg.
Republic Flow Meters
Scientific Glass Apparatus
Scientific Inst. Co.
Smoky Valve & Meter
Taglabue Mfg. Co.
Taylor Inst. Co.
Uehling Instrument Co.
U. S. Gage Co.

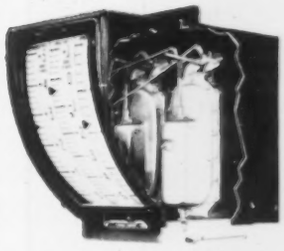
GAGES, Draft (See Gages, Differential Pressure)

GAGES, Drill Grinding
Lufkin Rule Co.
Morse Twist Drill
Starrett Co.

GAGES, Feeler
Improved Gauge Mfg.
Lufkin Rule Co.
Millers Falls Co.
Starrett Co.
Union Tool Co.
Van Keuren Co.

GAGES, Gas
Aberdeenmills Pump Co.
American Meter Co.
Bailey Meter Co.
Bastian-Blessing
Bristol Co.
Connelly Iron Sponge
Detroit Air Meter
Dickson Co.
Foxboro Co.
Gas Appliance Specialties
Lambert Meter Co.
Linde Air Products
Mason-Neilan Regulator

(Continued on next page)



BAILEY MULTI-POINTER GAGES

● Bailey Multi-Pointer Gages are made with any number of pointers and any scale combination from one to twelve. The pointers have 10" motion over plainly marked plastic molded scales so that readings can be taken at a distance of 20 feet. Diaphragm actuated elements enable this gage to withstand over-drafts and over-pressures without injury to the unit or its calibration.

All secondary factors such as draft, pressure, temperature, stoker speed and pulverizer feed can be indicated on one Bailey Multi-Pointer Gage.

BAILEY METER COMPANY
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Bailey Meter Company Ltd., Montreal, Canada

The Foxboro line includes Indicators, Recorders and Controllers in a variety of types to satisfy every condition which may be encountered. Liquids in both open and closed pressure vessels can be measured and controlled accurately.

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For addresses, see pages 56-64

GAGES, Gas (Cont'd)
Rochester Mfg. Co.
Specialty Glass Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Victor Equipment

GAGES, Grinding
Ames Co., B. C.
Brown & Sharpe
Comtor Co.
Federal Prod. Corp.
Lufkin Rule Co.

GAGES, Height
Brown & Sharpe
Ford Motor Co.
General Engg. & Model
Lufkin Rule Co.
Scherr Co.
Starrett Co.

GAGES, Hook
Gurley, W. & L. E.
Scientific Inst. (Calif.)
White Co., The

GAGES, Hydrostatic (See Gages, Liquid Level, Indicating)

GAGES, Internal Dial
Coats Mach. Tool
Comtor Co.
Federal Prod. Corp.
Gen. Engg. & Model Wks.
Scherr Co.

GAGES, Limit
Ford Motor Co.
General Elec. Co.
Gen. Engg. & Model Wks.
Greenfield Tap & Die
Meldrum Gabrielson
Pratt & Whitney
Sheffield Gage
United Cinephone
Van Keuren Co.

GAGES, Liquid Level, Indicating
American Meter Co.
Ashton Valve Co.
Autocall Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Bastian-Blessing
Brickley, G. S.
Bin-Dicator Co.
Boston Auto Gage
Bowser & Co.
Bristol Co.
Brown Inst. Co.
Builders Iron Foundry
Burt Scientific Labs.
Cochrane Corp.
Consol. Ashcroft Hancock
Crosby Steam Gage

GAGES, Liquid Level, Indicating (Cont'd)
Davis Reg. Co.
Defender Automatic Reg.
Dickson Co.
Elec. Indicator Corp.
Elec. Tachometer Corp.
Fisher Governor Co.
Foxboro Co.
Frick Co.
General Controls Co.
General Elec. Co.
Gurley, W. & L. E.
Hanlon-Waters, Inc.
International Filter Co.
Jensen Inst. Co.
Jerguson Gage Co.
Johnston & Jennings
Kellogg Switchboard
King Seeley
Klingerit, Inc.
Leeds & Northrup Co.
Leupold, Volpel
Liquidometer Co.
Lumenite Elec. Co.
Luxtrol Co., Inc.
Marsh Corp.
Mason-Neilan Regulator
McAlear Mfg. Co.
McNeill Engr. Equip.
Meriam Co., The
Morey & Jones, Ltd.
Nathan Mfg. Co.
Natural Gas Equipment
Paragon Electric
Penberthy Injector Co.
Petrometer Corp.
Pioneer Instrument Co.
Pneumercator Co., Inc.
Precision Therm. & Inst.
Preferred Utilities Mfg.
Reliance Gauge Column
Republic Flow Meters
Rochester Mfg. Co.
Schutte & Koerting Co.
Simplex Valve & Meter
Star Brass Mfg.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Uehling Instrument Co.
Vapor Recovery Systems
Wallace & Tiernan
Westinghouse Elec. & Mfg.
Wheelco Inst. Co.
Williams Gauge Co.
Wright-Austin Co.
Yarnell-Waring Co.

GAGES, Liquid Level, Recording (See Gages, Liquid Level, Indicating)

GAGES, Loss of Head
Bailey Meter Co.
Brickley, G. S.
Bristol Co.

GAGES, Loss of Head (Cont'd)
Builders Iron Foundry
Foxboro Co.
International Filter Co.
Jensen Inst. Co.
Morey & Jones, Ltd.
Taylor Inst. Cos.

GAGES, Mercury
Bacharach Industrial Inst.
Bailey Meter Co.
Builders Iron Foundry
Central Scientific
Connelly Iron Sponge
Consol. Ashcroft Hancock
Defender Automatic Reg.
Dubrovin, John
Dwyer Mfg. Co.
Eimer & Amend
Gas Appliance Specialties
General Physical Lab.
Heise Bourdon Tube Co.
Jensen Inst. Co.
Macklett & Son
Mason-Neilan Regulator
Meriam Co.
Moeller Instrument
Morey & Jones
Precision Therm. & Inst.
Refinery Supply Co.
Scientific Glass Apparatus
Simplex Valve & Meter
Specialty Glass Co.
Tagliabue Mfg. Co.
Taylor Inst., Cos.
Trerice Co.
Uehling Instrument Co.

GAGES, Micrometer
Ames Co., B. C.
Brown & Sharpe
Central Scientific Co.
Coats Mach. Tool Co.
Gaertner Scientific Corp.
Haines Gauge Co.
Instrument Specialties Co.
Lufkin Rule Co.
Precision Therm. & Inst.
Scherr Co.
Van Keuren Co.
Millers Falls Co.
Zeiss, Inc., Carl

GAGES, Oil
Abercrombie Pump Co.
Bailey Meter Co.
Boston Auto Gage
Heise Bourdon Tube Co.
Mason-Neilan Regulator
Nathan Mfg. Co.
Penberthy Injector Co.
Petrometer Corp.
Rochester Mfg. Co.
Uehling Inst. Co.
U. S. Gauge Co.

GAGES, Optical
Bausch & Lomb Optical
Chicago Dial Ind. Co.
Clark & Sons
Fecker, J. W.
Gaertner Scientific Corp.
Jones & Lamson Machine
Scherr Co.
United Cinephone Corp.
Zeiss, Inc., Carl

GAGES, Paint Film
General Elec. Co.
Hathaway Inst. Co.
Instrument Specialties Co.
Munsell Color Co.
Saxl Inst. Co.

GAGES, Paper Thickness (See Gages, Thickness)

GAGES, Piston Ring
Holz, Herman
Littelfuse Inc.
Wilkening Mfg. Co.

GAGES, Pitch Diameter
Brown & Sharpe
Federal Prod. Corp.
Greenfield Tap & Die
Lufkin Rule Co.
Pratt & Whitney
Scherr Co., Inc.
Union Tool Co.
Van Keuren Co.
West & Dodge Thr. Gage

GAGES, Plug
Brown & Sharpe
Ford Motor Co.
Greenfield Tap & Die
Morse Twist Drill
Pratt & Whitney
Precision Gage & Tool
Sheffield Gage
West & Dodge Thr. Gage

GAGES, Pneumatic Tank
Bacharach Industrial
Mason-Neilan Regulator
Pneumercator Co.
Rochester Mfg. Co.
Uehling Inst. Co.

GAGES, Precision Measuring
Ames Co., B. C.
Brown & Sharpe
Comtor Co.
Federal Prod. Corp.
Fertet Co.
Ford Motor Co.
Gaertner Scientific Corp.
Instrument Specialties Co.
Lufkin Rule Co.
Pratt & Whitney
Rieker Instrument Co.
Scherr Co., Inc.
Sheffield Gage
Starrett Co.

GAGES, Precision Measuring (Cont'd)
Thwing-Albert Inst. Co.
Van Keuren Co.
Carl Zeiss, Inc.

GAGES, Pressure, Indicating
Abercrombie Pump Co.
Allen Elec. & Equip.
American Meter Co.
Ashton Valve Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Baird Associates
Baldwin-Southwark Corp.
Bastian-Blessing
Belfield Co.
Bockel & Co.
Bristol Co.
Brown Inst. Co.
Brush Development Co.
Central Scientific Co.
Clark Blast Meter
Commercial Eng. Labs.
Consol. Ashcroft Hancock
Continental Elec. Co.
Crew Equip. Co.
Crosby Steam Gage
Defender Automatic Reg.
Dickson Co.
Dubrovin, John
Eimer & Amend
Emery Co.
Esterline-Angus Co.
Fisher Scientific Co.
Foxboro Co.
Friez & Sons
Gas Appliance Specialties
General Elec. Co.
General Physical Lab.
Green, Henry J.
Halpern, Walter J.
Hays Corp.
Heise Bourdon Tube Co.
Hoke, Inc.
Industrial Instrument Co.
Jerguson Gage Co.
King-Seeley Corp.
Kollsman Inst. Co.
Kurman Electric Co.
Leeds & Northrup
Leupold, Volpel & Co.
Linde Air Products Co.
Marsh Corp.
Mason-Neilan Regulator
Mercoid Corp.
Meriam Co.
Moeller Instrument Co.
Pittsburgh Equitable Met.
Precision Gage & Tool
Precision Therm. & Inst.
Preferred Utilities Mfg.
RCA Manufacturing Co.
Refinery Supply Co.
Republic Flow Meters
Rochester Mfg. Co.
Scientific Inst. Co.
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

GAGES, Pressure, Indicating (Cont'd)
Trerice Co.
Uehling Instrument Co.
United Cinephone Corp.
U. S. Gauge Co.
Victor Equipment Co.
Wagner & Son, Carl H.
Welch Mfg. Co.
Wilcus Manufacturing

GAGES, Pressure—Recording (See Gages, Pressure, Indicating)

GAGES, Pressure Temperature (See Gages, Pressure Indicating)

GAGES, Pressure, Tire
Air Balance Inst. Co.
U. S. Gauge Co.

GAGES, Pressure & Vacuum (See Gages, Pressure Indicating)

GAGES, Profile
Pratt & Whitney
Precision Gage & Tool
Sheffield Gage
Stockton Profile Gauge
United Cinephone Corp.

GAGES, Radius
Lufkin Rule Co.
Starrett Co.
United Cinephone Corp.

GAGES, Rain (See Rain Gages)

GAGES, Rifle Bore
Hathaway Inst. Co.
Pratt & Whitney

GAGES, Ring
Brown & Sharpe
Greenfield Tap & Die
Morse Twist Drill
Pratt & Whitney
Precision Gage & Tool
Sheffield Gage
West & Dodge Thread
Zeiss, Inc., Carl

GAGES, Screw Thread
Brown & Sharpe
Federal Prod. Corp.
Greenfield Tap & Die
Lufkin Rule Co.
Millers Falls Co.
Pratt & Whitney
Reed Small Tool Works
Sheffield Gage
Starrett Co.
Union Tool Co.
West & Dodge Thread
Zeiss, Inc., Carl

GAGES, Sliding
Pratt & Whitney
Van Keuren Co.

GAGES, Snap
Brown & Sharpe
Gen. Engg. & Model Wks.
Greenfield Tap & Die
Meldrum Gabrielson
Pratt & Whitney
Precision Gage & Tool
Sheffield Gage

UNITED STATES GAUGE COMPANY

INDICATING
AND RECORDING
PRESSURE
GAUGES

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All Sizes and Types
for
Every Purpose

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The true value of a pressure gauge lies in the measuring element. Foxboro offers you the ideal type for each class of pressure measurement from a full vacuum to 20,000 lbs. When you specify Foxboro Indicating or Recording Gauges you can be sure of accuracy and capacity to withstand continuous service over long periods of time.

Detailed information and specifications which will enable you to select the proper type are included in Bulletin No. 208. Write for a copy. The Foxboro Company, 46 Neponset Avenue, Foxboro, Mass., U.S.A. Branch offices in 25 Principal Cities.

MARSH PRESSURE GAUGES

• Marsh Pressure Gauges are known for accuracy and their ability to stay accurate. Pressure gauges in all standard ranges up to 30,000 pounds—also vacuum, altitude, compound and recording gauges. An outstanding feature is the "Recalibrator"—far superior to the ordinary "zero" adjustment. The latest addition to the Marsh line is the new Marsh "Mastergauge" series gauges tremendously advanced in accuracy and stamina.

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The Marsh line also includes dial thermometers, steam traps, radiator air valves and supply valves, vents, etc. Ask for bulletins.

Taylor

VOLUMETRIC PRESSURE GAUGES,
Recording and Indicating

Write for complete information and catalogs.

Taylor Instrument Companies
ROCHESTER, N.Y. TORONTO, CANADA

For addresses, see pages 56-64

GAGES, Spline
Brown & Sharpe
Pratt & Whitney
Precision Gage & Tool
Sheffield Gage
GAGES, Star
Pratt & Whitney
GAGES, Strain
American Inst. Co.
Baldwin-Southwark
Brinkley, G. S.
General Elec. Co.
Hathaway Inst. Co.
Holz, Herman A.
Olsen Testing Machine
Pratt & Whitney
Saxl Inst. Co.
Starrett Co.
GAGES, Surface
Ames Co., B. C.
Brown & Sharpe
Genales, Andrew
Federal Prod. Corp.
Lufkin Rule Co.
Millers Falls Co.
Saxl Inst. Co.
Starrett Co.
Zeiss, Inc., Carl
GAGES, Taper
Brown & Sharpe
Federal Prod. Corp.
Precision Gage & Tool
Pratt & Whitney
Sheffield Gage
Starrett Co.
GAGES, Telescoping
Brown & Sharpe
Lufkin Rule Co.
Starrett Co.
GAGES, Thickness
American Assania Corp.
Ames Co., B. C.
Amthor Testing Inst. Co.
Brown & Sharpe
Federal Prod. Corp.
Ford Motor Co.
General Elec. Co.
Gen. Engr. & Mfg. Co.
Hathaway Inst. Co.
Ill. Testing Labs.
Instrument Specialties Co.
Lufkin Rule Co.
Magnetic Gauge Co.
Pratt & Whitney
Precision Gage & Tool
Precision Therm. & Inst.
Randall, Frank E.
Millers Falls Co.
Pratt & Whitney
Saxl Inst. Co.
Sheffield Gage
Speidel & Co.
Starrett Co.
GAGES, Thickness (Cont'd)
Suter, Alfred
Thwing-Albert Inst. Co.
Union Tool Co.
Van Keucen Co.
Waltham Dial Gage
GAGES, Thickness, Magnetic
American Inst. Co.
Commercial Eng. Labs.
General Elec. Co.
Hathaway Inst. Co.
Hickok Elec. Inst. Co.
GAGES, Tide
American Inst. Co.
Bailauf Mfg. Co.
Brinkley, G. S.
Uehling Instrument Co.
GAGES, Torque
Martin Decker Corp.
Riehle Div.
Saxl Inst. Co.
Toledo Scale Co.
GAGES, Vacuum
(See Gages, Pressure)
GAGES, Venturi (See Flow Meters, Venturi)
GAGES, Water Level (See Gages, Liquid Level)
GAGES, Wind
American Inst. Co.
Detroit Air Meter
Friez & Sons
Fuess, Inc.
Green, Henry J.
Kenyon Instrument Co.
Risker Inst. Co.
Taylor Inst. Cos.
GAGES, Wire Measuring
Ames Co., B. C.
Brown & Sharpe
Federal Prod. Corp.
Greenfield Tap & Die
Hathaway Inst. Co.
Instrument Specialties Co.
Pratt & Whitney
Starrett Co.
GALVANOMETERS, A-c.
Brown Inst. Co.
Brush Development Co.
Cambridge Inst. Co.
Central Scientific Co.
General Elec. Co.
Hathaway Inst. Co.
Holland Research Corp.
Leeds & Northrup Co.
Pfaltz & Bauer, Inc.
Rawson Electrical Inst.
Rubicon Co.
Ruska & Co.
Sensitive Research Inst.
Welch Mfg. Co.
Weston Elec. Inst.
Wheelco Inst. Co.
GALVANOMETERS, Astatic
Cambridge Inst. Co.
Central Scientific Co.
Chicago Apparatus Co.
Hathaway Inst. Co.
Leeds & Northrup Co.
Precise Instrument Co.
Rawson Electrical Inst.
Sensitive Research Inst.
Tagliabue Mfg. Co.
Wheelco Inst. Co.
GALVANOMETERS, D-c.
Brown Inst. Co.
Cambridge Inst. Co.
Central Scientific Co.
Chicago Apparatus Co.
General Elec. Co.
G-M Labs.
Hathaway Inst. Co.
Hickok Elect. Inst. Co.
J-B-T Instruments
Leeds & Northrup Co.
Pfaltz & Bauer, Inc.
Rawson Electrical Inst.
RCA Manufacturing Co.
Roller-Smith Co.
Rubicon Co.
Sensitive Research Inst.
Shalleross Mfg. Co.
Simpson Elec. Co.
Tagliabue Mfg. Co.
Triplett Electrical Inst.
W. M. Welch Mfg. Co.
Weston Elec. Inst. Corp.
Wheelco Inst. Co.
GALVANOMETERS, Piezoelectric
Brush Development Co.
GALVANOMETERS, Reflecting
Rawson Electrical Inst.
GALVANOMETERS, Vacuum-tube
Engineering Labs., Inc.
Hathaway Instrument Co.
Measurements, Inc.
National Technical Labs.
Tagliabue Mfg. Co., C. J.
GALVANOSCOPES
Central Scientific Co.
GAS ANALYZERS, Air
Cambridge Inst. Co.
Central Scientific Co.
Elmer & Amend
Fish-Schurman Co.
Fisher Scientific Co.
Friez & Sons
Hallett & Co.
Mine Safety Appliances
Permutit Co.
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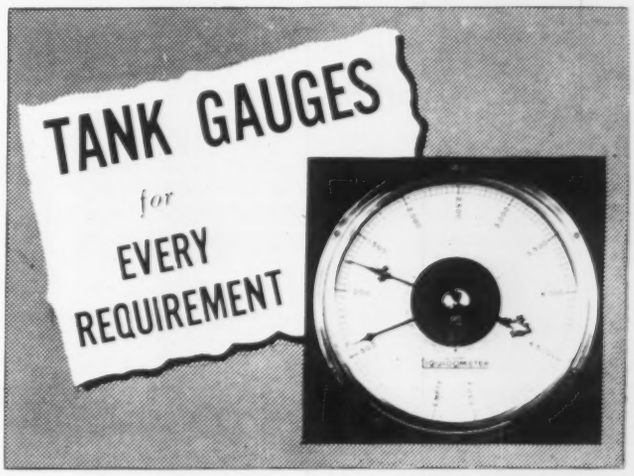

LIQUIDOMETER remote reading gauges automatically indicate or record liquid levels. No pumps, valves or auxiliary units required to read them. Balanced hydraulic transmission system ingeniously compensates for temperature variations on communicating tubing. Accuracy unaffected by variation in specific gravity. Approved by Underwriters Laboratories and similar bodies for gauging hazardous liquids. Models are available for remote signals, automatic control of pumps, etc. DIRECT READING models available where remote reading is not required.

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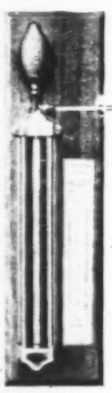

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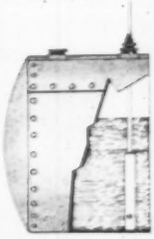
PETROMETER is used for all kinds of liquids, lighter or heavier than water, stored in any type of tank or container made of steel, glass, hard rubber, concrete or other kinds of materials.



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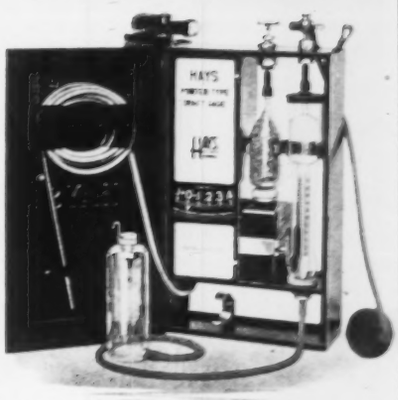

HAYS PORTABLE COMBUSTION TEST SETS are equipped to handle an accurate gas analysis—right in the field.

Installations become more successful, trouble makers are rapidly exposed, guesswork becomes a thing of the past.

Test Sets are available with all necessary equipment for the analysis for CO_2, CO, and O_2—complete with flue gas thermometer, and draft gage. For further particulars—write to 925 Eighth Avenue, Michigan City, Indiana.

The HAYS CORPORATION
MICHIGAN CITY, INDIANA, U.S.A.

For addresses, see pages 56-64

For Recording and Indicating the Per Cent CO_2 in Flue Gas

Analyzes the flue gases electrically and then transmits the readings electrically to an indicating or recording meter, or both. No moving parts or chemicals in the gas analysis cell.

Furnished in three types for recording from one to six readings on a single chart, 7" wide. Single point recorders record the per cent CO_2 on a full width chart, using an inked ribbon. Multiple models record from two to three CO_2 readings on a full width chart using a multi-colored ribbon. Multiple duplex models record from two to six readings on two sections of a full-width chart, using two measuring systems and one multi-colored inked ribbon. Flue gas temperature can be recorded on same duplex chart with CO_2 reading. One, two or three temperatures and CO_2 readings can be recorded on the same duplex chart. Indicating reading is obtained directly on a 6" scale.

Write for Catalog 3006. THE BROWN INSTRUMENT COMPANY, *a division of Minneapolis-Honeywell Regulator Co.*, 4482 Wayne Avenue, Philadelphia, Pa.

BROWN ELECTRIC CO_2 METER
AND
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
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GAS DENSITY METER

Ac-Me Gravitometer

Is simple in construction and operation; it gives an accurate record of the specific gravity of gas; it is automatically compensated for atmospheric temperature and pressure variations.

ALSO

Other gas testing instruments and laboratory apparatus.

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Scientific Glass App.
Tagliabue Mfg. Co.
Wilson Products, Inc.

GAS ANALYZERS, Ammonia
Cambridge Inst. Co.
Engelhard, Chas.
Mercoid Corp.
Permutit Co.
Sargent & Co.
Tagliabue Mfg. Co.

GAS ANALYZERS, Carbon Dioxide
Ace Glass Inc.
Allen Elec. & Equip.
Bacharach Industrial Inst.
Brown Inst. Co.
Cambridge Inst. Co.
Central Scientific Co.
Defender Automatic Reg.
Dwyer Mfg. Co.
Emer & Amend
Ellison Draft Gage Co.
Engelhard, Chas.
Fish-Schurman Co.
Fisher Scientific Co.
Friez & Sons
Gow-Mac Instrument
Hays Corp.
Hebler Co.
Lantz Phelps Corp.
Leeds & Northrup Co.
Machlett & Son
Permutit Co.
Porter Co.
Precision Therm. & Inst.
Preferred Utilities Mfg.
Republic Flow Meters
Sargent & Co.
Scientific Glass App.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Uehling Instrument Co.
Williams Apparatus Co.

GAS ANALYZERS, Carbon Monoxide
Allen Elec. & Equip.
Bacharach Industrial Inst.
Cambridge Inst. Co.
Chicago Apparatus Co.
Eclipse Aviation
Eimer & Amend
Fish-Schurman Co.
Hays Corp.
Leeds & Northrup Co.
Machlett & Son
Mine Safety Appliances
Sargent & Co.
Scientific Glass App.
Scientific Inst. Co.
Tagliabue Mfg. Co.

GAS ANALYZERS, Chlorinated Hydrocarbons
Wilson Products, Inc.

GAS ANALYZERS, Flue Gas (See Gas Analyzers, Carbon Dioxide)

GAS ANALYZERS, Hydrogen
Bacharach Industrial Inst.
Chicago Apparatus Co.

GAS ANALYZERS, Hydrogen Sulphide
American Meter
Brown Inst. Co.
Bushnell & Nevins
Cambridge Inst. Co.
Connelly Iron Sponge
Eimer & Amend
Johnson-Williams, Ltd.
Mine Safety Appliances
Sargent & Co.
Scientific Glass Apparatus

GAS ANALYZERS, Nitric Oxide
Cambridge Inst. Co.
Eimer & Amend
Rubicon Co.
Sargent & Co.

GAS ANALYZERS, Orsat
Ace Glass Inc.
Bailey Meter Co.
Central Scientific Co.
Chicago Apparatus Co.
Defender Automatic Reg.
Dwyer Mfg. Co.
Eimer & Amend
Ellison Draft Gage
Fish-Schurman Co.
Fisher Scientific Co.
Hays Corp.
Machlett & Son
Precision Therm. & Inst.
Sargent & Co.
Scientific Glass App.
Specialty Glass Co.

GAS ANALYZERS, Oxygen
Chicago Apparatus Co.
Cambridge Inst. Co.
Eclipse Aviation
Eimer & Amend
Hays Corp.
Hebler Co.
Linde Air Products Co.
Mine Safety Appliances
Sargent & Co.
Scientific Glass App.
Tagliabue Mfg. Co.

GAS ANALYZERS, Oxygen & Nitrogen Apparatus
Boekel & Co.
Cambridge Inst. Co.
Central Scientific Co.
Eimer & Amend
Hebler Co.
Linde Air Products Co.
Sargent & Co.
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GAS ANALYZERS, Sulphur Dioxide
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Bushnell & Nevins
Cambridge Inst. Co.
Eimer & Amend
Engelhard, Chas.
Fish-Schurman Co.
Hebler Co.
Leeds & Northrup Co.
Sargent & Co.
Scientific Glass App.
Tagliabue Mfg. Co.
Uehling Instrument Co.

GAS APPARATUS, Orifice Well Tester
Refinery Supply Co.

GAS DENSITY METERS
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Central Scientific Co.
Ess Inst. Co.
Precision Therm. & Inst.
Refinery Supply Co.
Permutit Co.

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Askania Regulator Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Brinkley, G. S.
Bristol Co.
Brown Inst. Co.
Cochrane Corp.
Fischer & Porter
Fish-Schurman Co.
Foxboro Co.
Mason-Neilan Regulator
Pittsburgh Equitable Met.
Precision Scientific Co.
Republic Flow Meters
Selas Company
Simplex Valve & Meter
Tagliabue Mfg. Co.
Taylor Inst. Co.

GAS HOLDER POSITION INDICATORS
Bailey Meter Co.
Elec. Indicator Corp.
Elec. Tachometer Corp.
Foxboro Co.
Zuhr, Inc., Henry

GAS LEAK INDICATORS
Bullard Co.
Gilmore, E. R.
Heiland Research Corp.
Johnson-Williams, Ltd.
McFarlin Co.
Refinery Supply Co.
Taylor Inst. Cos.
Water Leak Detector Co.

GAS METERS, INFERENTIAL — Area (See Flowmeters, Area)

GAS METERS, INFERENTIAL—Flow Nozzle (See Flowmeters, Orifice and Nozzle)

GAS METERS, INFERENTIAL—Orifice (See Flowmeters, Orifice and Nozzle)

GAS METERS, INFERENTIAL — Pitot-tube (See Flowmeters, Pitot-tube)

GAS METERS, INFERENTIAL—Venturi (See Flowmeters, Venturi)

GAS METERS, POSITIVE, Bellows, Slide-valve
American Meter Co.
Binckley, George Sydney
Cleveland Gas Meter
Lambert Meter Co.
Littelfuse Inc.
Pittsburgh Equit. Meter
Sprague Meter Co.

GAS METERS, POSITIVE, Rotary
Pittsburgh Equit. Meter

GAS METERS, POSITIVE, Special for extremely small flows
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Testrite Instrument Co.
Warren-Knight Co.
Weber Co., F.
Zeiss, Inc., Carl

MALT TESTING APPARATUS (See Testers, Malt)

MANOMETERS, High-Pressure
Daniel Orifice Fitting

MANOMETERS, Inclined Tube
American Blower Corp.
Bacharach Industrial Inst.
Bailey Meter Co.
Consol. Ashcroft Hancock
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Friez & Sons
Fuess, Inc.
Hays Corp.
H-B Inst. Co., Inc.
Meriam Co.
Precision Therm. & Inst.
Uehling Inst. Co.

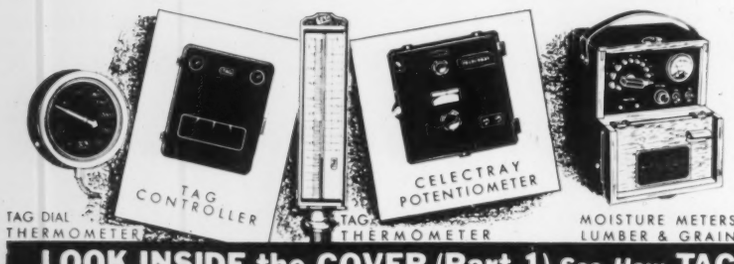
MANOMETERS, Micro
Bacharach Industrial Inst.
Cambridge Inst. Co.
Fuess, Inc.
Welch Mfg. Co.

MANOMETERS, Remote-reading
Bailey Meter Co.
Brown Inst. Co.
Uehling Inst. Co.

MANOMETERS, Single-tube & Reservoir
Ace Glass Inc.
Bacharach Industrial Inst.
Bailey Meter Co.
Commercial Engg. Labs.
Connelly Iron Sponge Co.
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Gas Appliance Specialties
Lantz-Phelps Corp.
Meriam Co.
Morey & Jones, Ltd.
Precision Therm. & Inst.
Scientific Inst. Co.
Simplex Valve & Meter
Uehling Inst. Co.

MANOMETERS, U-tube, Electric Transmitting
Brown Inst. Co.
Bailey Meter Co.
Precision Therm. & Inst.
Southwest Electronics Labs.

MANOMETERS, U-tube, Glass
Ace Glass, Inc.
Annis Co.
Bacharach Industrial Inst.
Builders Iron Foundry
Connelly Iron Sponge
Consol. Ashcroft Hancock
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Eimer & Amend
Fish-Schurman Co.
Fisher Scientific Co.
Halpern, Walter J.
Hays Corp.
Jensen Inst. Co.
Kimble Glass Co.
Lambert Meter Co.
Macalaster Bicknell Co.
Machlett & Son
Meriam Co.
Mine Safety Appliances
Moeller Instrument Co.
Morey & Jones, Ltd.
Precision Therm. & Inst.
Rascher & Betzold



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TAG THERMOMETER
MOISTURE METERS LUMBER & GRAIN

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Park & Nostrand Aves., Brooklyn, N. Y.

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For addresses, see pages 56-64

MANOMETERS, U-tube, Glass (Cont'd)
Refinery Supply Co.
Ruth Glass Division
Scientific Inst. Co.
Simplex Valve & Meter
Specialty Glass Co.
Tagliabue Mfg. Co.
Trerice Co.
Uehling Inst. Co.
Vapor Recovery Systems
Wilkens-Anderson Co.

MANOMETERS, U-tube, Metal
Cambridge Inst. Co.
Connelly Iron Sponge
Mason-Neilan Regulator
Precision Therm. & Inst.
Scientific Inst. Co.
Taylor Inst. Cos.

MAP MAKING PROJECTORS
Bausch & Lomb Optical
Spencer Lens Co.

MARINE INSTRUMENTS (See Nautical Instruments)

MARINE INSTRUMENTS, Gyro-Compass & Gyro-Pilot
Sperry Gyroscope Co.

MASTER CLOCKS (See Clocks, Master)

MEASURING MACHINES, Lineal
Durant Mfg. Co.
Ferner Co.
Fidelity Mach. Co.
Gaertner Scientific Corp.
Pratt & Whitney

MEASURING MACHINES, Wire
Durant Mfg. Co.
Minneapolis Elec. & Const.
Pratt & Whitney

MEGOHMMETERS
Biddle Co., Jas. G.
Cambridge Inst. Co.
Clough-Brengle Co.
General Elec. Co.
General Radio Co.
Ill. Testing Labs.
Industrial Instruments
Martindale Electric Co.
Rawson Electrical Inst.
RCA Manufacturing Co.
Sensitive Research Inst.
Shallcross Mfg. Co.
Stricht & Co.
Weston Elec. Inst. Corp.

MEGOHM VOLTMETERS (See Voltmeters, Megohm)

MELTING POINT APPARATUS
Ace Glass, Inc.
American Inst. Co.
Central Scientific Co.
Corning Glass Works
Eimer & Amend
Ferner Co.
Fisher Scientific Co.
Humboldt Mfg. Co.
Machlett & Son
Microchemical Service
Parr Instrument Co.
Pfaltz & Bauer, Inc.
Precision Scientific Co.
Scientific Glass Apparatus
Tagliabue Mfg. Co.
Western Machinery Co.

METAL DETECTORS (See Detectors, Metal)

METALLIC BELLOWS (See Bellows, Metallic)

METALS, Thermostatic
Chace Co.
General Plate

METEOROLOGICAL INSTRUMENTS
American Askania Corp.
American Inst. Co.
Am. Paulin System
Friez & Sons

METEOROLOGICAL INSTRUMENTS (Cont'd)
Fuess, Inc.
Geophysical Instrument
G. M. Mfg. Co., Inc.
Green, Henry J.
Moeller Instrument Co.
Precision Therm. & Inst.
Taylor Inst. Cos.

METER LEVELING SADDLES
Robinson Orifice Fitting

METER PROVERS, Gas
American Meter Co.
Lambert Meter Co.
Pgh. Equitable Meter Co.

METER STICKS
Lufkin Rule Co.
Weber Co.

METERS, Acid (See Acidimeters)

METERS, Ampere Hour (See Ampere Hour Meters)

METERS, Coal (See Coal Meters)

METERS, Compressed Air
American Meter Co.
Bailey Meter Co.
Mason-Neilan Regulator
N. J. Meter
Taylor Inst. Cos.

METERS, Condensation
Am. Dist. Steam Co.
Bailey Meter Co.
Buffalo Meter Co.
Central Station Steam
Henszey Co.
Taylor Inst. Cos.

METERS, Conductivity (See Conductivity Meters)

METERS, Consumer's, Electric
General Elec. Co.
Westinghouse Elec. & Mfg.

METERS, Consumer's, Gas
American Meter Co.
Lambert Meter Co., Inc.

METERS, Current, Air & Gas
American Meter Co.
Mason-Neilan Regulator
Pgh. Equitable Meter Co.

METERS, Current, Liquid
American Meter Co.
Bowser & Co.
Builders Iron Foundry
Eclipse Aviation
Keuffel & Esser Co.
Mason-Neilan Regulator
National Meter Co.
Neptune Meter Co.
Pgh. Equitable Meter Co.
Scientific Inst. Co. (Calif.)
Uehling Instrument Co.
Worthington-Gamon Meter

METERS, Decibel (See Sound Level Meters)

METERS, Demand, Electric
Electric Indicator Co.
Esterline-Angus Co.
General Elec. Co.
HD Elec. Co.
Landis & Gyr, Inc.
Lincoln Meter Co.
Sangamo Electric Co.
Therm-Electric Meter
Westinghouse Elec. & Mfg.

METERS, DEMAND, Gas
American Meter Co.
Bailey Meter Co.
Bendix Marine Products
Lambert Meter Co.
Mason-Neilan Regulator
Pgh. Equitable Meter Co.

METERS, Demand Limiting, Automatic
American Meter Co.
Annis Co.
Esterline-Angus Co.
General Elec. Co.
Landis & Gyr, Inc.
Lincoln Meter Co.
Mason-Neilan Regulator
Therm-Electric Meter
Westinghouse Elec. & Mfg.

METERS, Earth Current
Geophysical Inst. Co.
Rawson Electrical Inst.

METERS, Electronic
Ballantine Labs.
Cambridge Inst. Co.
Clough-Brengle Co.
Luxtrol Co., Inc.
RCA Manufacturing Co.
Weston Elec. Inst. Co.

METERS, Flow (See Flowmeters)

METERS, Footage (See Counters, Footage)

METERS, Foot-candle (See Foot-candle Meters)

METERS, Frequency (See Frequency Meters)

METERS, Gas (See Gas Meters)

METERS, Gas, Dry Test
American Meter Co.
Lambert Meter Co.
Pgh. Equitable Meter Co.
Tagliabue Mfg. Co.

METERS, Gas, Integrating
American Meter Co.
Bailey Meter Co.
Brown Inst. Co.
Foxboro Co.
Lambert Meter Co.
Mason-Neilan Regulator
Tagliabue Mfg. Co.
Taylor Inst. Cos.

METERS, Gas, Wet Test
American Meter Co.
Lambert Meter Co.
Tagliabue Mfg. Co.

METERS, Gas, Station
American Meter Co.
Bowser & Co.
Pgh. Equitable Meter Co.

METERS, Gasoline (See Meters, Liquid)

METERS, High Pressure & High Pressure Distribution
Pgh. Equitable Meter Co.
Simplex Valve & Meter

METERS, Hydrogen Ion (See Hydrogen Ion Determination Instruments)

METERS, LIGHT (See Foot-candle Meters, Illumination Indicators and Recorders, Light Meters, etc.)

METERS, Liquid, Volumetric Types, Nutating Disk
Badger Meter Co.
National Meter Co.
Neptune Meter Co.
Pgh. Equitable Meter
Read Machinery Co.
Worthington Gamon

METERS, Liquid, Volumetric Types, Nutating Piston
Buffalo Meter Co.
National Meter Co.
Neptune Meter Co.
Worthington Gamon

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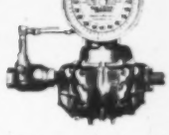
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EMCO Domestic Gas Meter

EMCO Orifice Meter

EMCO Ejector Gas Service Regulator

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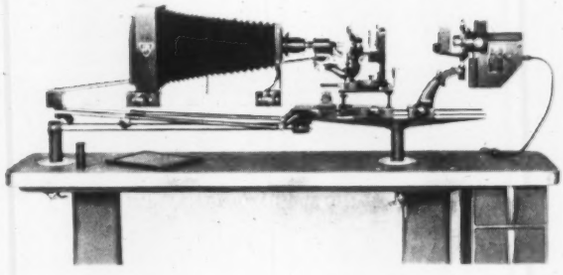

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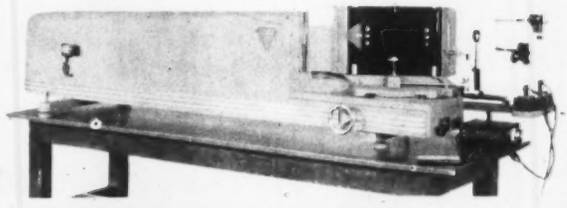

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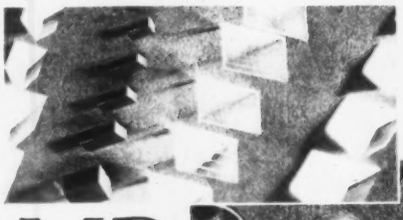

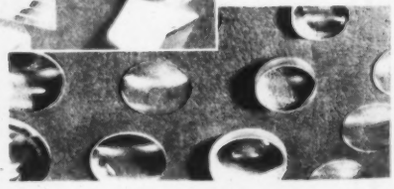

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Campion Labs.
National Meter Co.
Neptune Meter Co.
Worthington-Gamon Met.

METERS, Liquid, Volumetric Types, Reciprocating Piston
Bowser & Co., Inc.
Ralph N. Brodie Co., Inc.
Pgh. Equitable Meter
Ruska & Co., Inc.
Worthington Gamon

METERS, Liquid, Volumetric, Rotary Piston
Badger Meter Co.
Bowser & Co., Inc.
Neptune Meter Co.
Pgh Equitable Meter
Smith Meter Co.

METERS, Liquid, Volumetric, Special for Extremely Low Flow
Bowser & Co., Inc.
Campion Labs.
Commercial Eng. Labs.
Fluid Meters, Inc.
Gauthier, Donat A.
McCord Radiator & Mfg.
National Meter Co.

METERS, Liquid, Weighing
Richardson Scale Co.

METERS, Mileage
Gauthier, Donat A.
Jaeger Watch Co.
Ohmer Register
Veeder-Root, Inc.

METERS, Multi-Rate
Landis & Gyr, Inc.

METERS, Oil (See Meters, Liquid)

METERS, Orifice (See Flowmeters, Orifice)

METERS, Oxygen (See 1—Gas Analyzer; 2—Gas Meters)

METERS, Pitot Tube (See Flowmeters, Pitot Tube)

METERS, Positive Displacement (See Gas Meters, Positive and Liquid Meters, Volumetric)

METERS, Prepayment
American Meter Co.
Landis & Gyr, Inc.

METERS, Proportional
American Meter Co.
Bristol Co.
Foxboro Co.

METERS, Proportional (Cont'd)
Mason-Neilan Regulator
National Meter Co.
Pgh. Equitable Meter Co.
Taylor Inst. Cos.

METERS, Reactive Component
Andrew, Victor J.
General Elec. Co.
Landis & Gyr, Inc.
Therm-Electric Meters Co.
Westinghouse Elec. & Mfg.

METERS, Rotary Displacement
Bowser & Co.
Neptune Meter Co.
Pgh. Equitable Meter Co.

METERS, Sewage
American Meter Co.
Bailey Meter Co.
Brown Inst. Co.
Builders Iron Foundry
Mason-Neilan Regulator
Morey & Jones, Ltd.
Pgh. Equitable Meter Co.
Simplex Valve & Meter
Taylor Inst. Cos.

METERS, Shunt
Builders Iron Foundry
Columbia Elec. Mfg.
Daven Co.
Instrument Resistors
Rawson Electrical Inst.
Wheelco Inst. Co.

METERS, Station
American Meter Co.

METERS, Steam (See Flowmeters, Steam)

METERS, Time
Campion Labs.
Cramer & Co., Inc.
Elec. Tachometer Corp.
General Elec. Co.
Jaeger Watch Co.
Luers, J. Milton
National Instrument Co.
Paragon Electric Co.
Rawson Electrical Inst.
Thompson Clock Co.
Warren Telechron Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

METERS, Ultraviolet Radiation
General Elec. Co.
Westinghouse Elec. & Mfg.

METERS, Venturi (See Flowmeters, Venturi)

METERS, V-notch (See Flowmeters, Weir)

METERS, Volumetric, Positive Displacement (See Gas Meters, Positive; see Meters, Liquid, Volumetric)

METERS, Water (See Liquid Meters, Volumetric; also Flowmeters, Liquid)

METERS, Watt-Hour
Duncan Electric
General Elec. Co.
Landis & Gyr, Inc.
Sangamo Electric Co.
Westinghouse Elec. & Mfg.

METERS, Weir (See Flowmeters, Weir)

MICROAMMETERS (See Ammeters, Microammeters)

MICRODENSITOMETERS
Akatos, Inc.
Dietert Co.
Gaertner Scientific Corp.
Micro Instrument Co.

MICROFARADMETERS
Biddle Co., Jas. G.
Clough-Brengle Co.

MICRO-MANIPULATORS
Hoffman Co., S. O.
Industrial Instruments
Micro Instrument Co.
Zeiss, Inc., Carl

MICROMANOMETERS (See Manometers, Micro)

MICROMETERS, Calendar
Coats Mach. Tool Co.
Precision Therm. & Inst.

MICROMETERS, Dial
Ames Co., B. C.
Coats Mach. Tool Co.
Exact Weight Scale
Federal Prod. Corp.
Gen. Engr. & Model Wks.
Glogau & Co.
Haines Gauge Co.
Randall, Frank E.
Scherr Co., Inc.
Starrett Co.
Waltham Dial Gage Co.

MICROMETERS, External
Reed Small Tool Works

MICROMETERS, Outside
Slocomb Co., J. T.

MICROMETERS, Filar Eyepiece
Gaertner Scientific Corp.

MICROMETERS, Internal
Brown & Sharpe
Coats Mach. Tool Co.
Lufkin Rule Co.
Micro Products Co.
Millers Falls Co.
Reed Small Tool Works
Scherr Co., Inc.
Zeiss, Inc., Carl

MICROMETERS, Optical
Bausch & Lomb Optical
Fish-Schurman Co.
Gaertner Scientific Corp.
Keuffel & Esser Co.
Leitz, Inc.
Scherr Co., Inc.
Spencer Lens Co.
Zeiss, Inc., Carl

MICROMETERS, RADIO
Sensitive Research Inst.

MICROPROJECTOR
Bausch & Lomb Optical
Jones & Lamson Mach.
Wilder, Inc.

MICROSCOPE ACCESSORY INSTRUMENTS
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Gaertner Scientific Corp.
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Microchemical Service
Pfaltz & Bauer, Inc.
Spencer Lens Co.
Zeiss, Inc., Carl

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Gen. Elec. Lamp Dept.
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Pfaltz & Bauer, Inc.
Spencer Lens Co.
Zeiss, Inc., Carl

MICROSCOPE SLIDES (Prepared)
Central Scientific Co.
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Clay-Adams Co.
Fish-Schurman Co.
Gaertner Scientific Corp.
Gen. Biological Supply
Rieker Instrument Co.
Spencer Lens Co.
Welch Mfg. Co.

MICROSCOPES, Ballistic Comparison
Bausch & Lomb Optical
Leitz, Inc.
Spencer Lens Co.
Zeiss, Inc.

MICROSCOPES, Binocular
Bausch & Lomb Optical
Fuess, Inc.
Leitz, Inc.
Pfaltz & Bauer, Inc.
Scherr Co., Inc.
Spencer Lens Co.
Zeiss, Inc., Carl

MICROSCOPES, Biological (See Microscopes, Binocular)

MICROSCOPES, Brinell
Bausch & Lomb Optical
Detroit Testing Mach.
Fisher Scientific Co.
Fuess, Inc.
Gaertner Scientific Corp.
Holz, Herman A.
Leitz, Inc.
Pittsburgh Inst. & Mach.
Riehle Division
Suter, Alfred

MICROSCOPE, Dark Field
Spencer Lens Co.

MICROSCOPES, Finish Comparison
Bausch & Lomb Optical
Fecker, J. W.
Fuess, Inc.
Gaertner Scientific Corp.
Leitz, Inc.
Scherr Co., Inc.
Spencer Lens Co.
Zeiss, Inc., Carl

MICROSCOPES, Inspection (See Microscopes, Finish Comparison)

MICROSCOPES, Measuring
Bausch & Lomb Optical
Central Scientific Co.
Fecker, J. W.
Fuess, Inc.
Gaertner Scientific Corp.
Kern Co.
Leitz, Inc.
Micro Instrument Co.
Scherr Co., Inc.
Zeiss, Inc., Carl

MICROSCOPES, Metallographic
Bausch & Lomb Optical
Clay-Adams Co.
Fuess, Inc.
Leitz, Inc.
Micro Instrument Co.
Pfaltz & Bauer, Inc.
Scherr Co., Inc.
Zeiss, Inc., Carl

MICROSCOPES, Petrographical
Bausch & Lomb Optical
Fuess, Inc.
Leitz, Inc.
Spencer Lens Co.
Zeiss, Inc., Carl

MICROSCOPES, Thread Contour (See Microscopes, Finish Comparison)

MICROSCOPES, Toolmaker's
Bausch & Lomb Optical
Fuess, Inc.
Gaertner Scientific Corp.
Goerz Amer. Optical
Leitz, Inc.

MICROSCOPES, Toolmakers' (Cont'd)
Micro Instrument Co.
Scherr Co., Inc.
Zeiss, Inc., Carl

MICROSCOPES, Wire Gaging
Bausch & Lomb Optical
Zeiss, Inc., Carl

MICROTOMES
Bausch & Lomb Optical
Cambridge Inst. Co.
Central Scientific Co.
International Equip. Co.
Leitz, Inc.
Micro Instrument Co.
Pfaltz & Bauer, Inc.
Spencer Lens Co.
Thomas Co., Arthur H.

MICROVOLTMETERS (See Voltmeters, Micro)

MILEAGE METERS (See Meters, Mileage)

MILITARY INSTRUMENTS (See Ordnance Instruments)

MILK TESTERS (See Testers, Milk)

MILLIAMMETERS (See Ammeters, Milliammeters)

MILLIOHMMETERS (See Ohmmeters, Milliohmmeters)

MILLIVOLTMETERS (See Voltmeters, Millivoltmeters)

MINE GAS INDICATORS (See Detectors, Mine Gases)

MIRRORS
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Gurley, W. & L. E.
Hathaway Inst. Co.
Keuffel & Esser Co.
Kollmorgen Optical Co.
Master Optical Co.
Perkin, Elmer & Moffitt
Rieker Inst. Co.
United Glassphone Corp.
Warren-Knight Co.

MODULATION METERS
Andrew, Victor J.
General Radio Co.
RCA Manufacturing Co.
Weston Elec. Inst. Corp.

MOISTURE METERS (See Testers & Testing Machines, Moisture)

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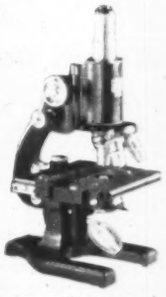

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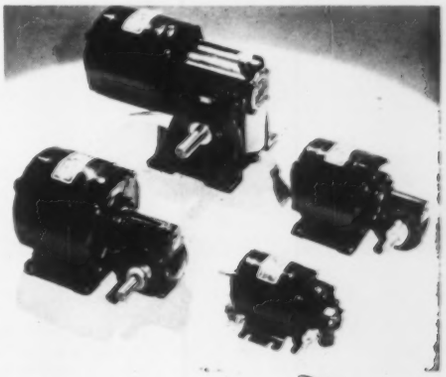

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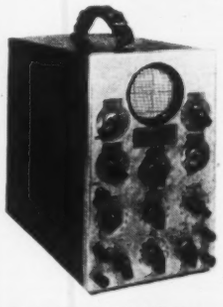

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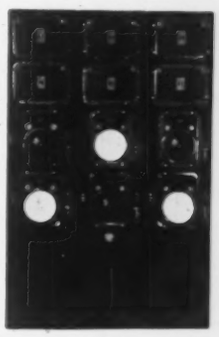

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Millers Falls Co.
Post Co., Frederick
Refinery Supply Co.
Solimano, Inc.
Speidel & Co.
Starrett Co.
Ulmer Co., J. C.
Warren-Knight Co.
Weber Co.
White Co., Inc.

POLARIMETERS
Akatos, Inc.
Central Scientific Co.
Gaertner Scientific Corp.
Kern Co.
Leitz, Inc.
Pfaltz & Bauer, Inc.
Sargent & Co.
Zeiss, Inc., Carl

POLARISCOPE TUBES (See Tubes, Polariscope)

POLARISCOPES
Akatos, Inc.
Gaertner Scientific Corp.
Pfaltz & Bauer, Inc.
Welch Mfg. Co.

POLARISCOPES, Photoelasticity
Bausch & Lomb Optical
Central Scientific Co.
Fecker, J. W.
Fuess, Inc.
Gaertner Scientific Corp.
Kollmorgen Optical Co.
Polarized Light & Photo.
Polarizing Instrument
Precision Therm. & Inst.
Woermann Schuchhardt
Zeiss, Inc., Carl

POLARITY INDICATORS
Ruehfel Co.
Weston Elec. Inst. Corp.

POLARIZING PLATES
Central Scientific Co.
Fuess, Inc.
Polarized Products
Polarizing Instrument
Woermann-Schuchhardt
Zeiss, Inc., Carl

POLISHING MACHINES
American Inst. Co.
Eimer & Amend
Fisher Scientific Co.
Mico Instrument Co.

PORCELAIN, Laboratory
Akatos, Inc.
Coors Porcelain Co.
Fish-Schurmann Co.

POROUS WARE FOR ELECTROLYSIS
Coors Porcelain Co.
Fish-Schurman Co.

POSITION INDICATORS
Automatic Temp. Control
Bailey Meter Co.
Bendix Marine Products
Boston Auto Gage Co.
Builders Iron Foundry
Elec. Indicator Corp.
Electric Speed Ind.
Elec. Tachometer Corp.
Foxboro Co.
General Elec. Co.
Hickok Elec. Inst. Co.
Pioneer Instrument Co.
Shallcross Mfg. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

POSITION RECORDERS
Amer. Automatic Electric
Annis Co.
Autocall Co.
Bailey Meter Co.
Builders Iron Foundry
Elec. Indicator Corp.
Elec. Tachometer Corp.
Foxboro Co.
Westinghouse Elec. & Mfg.

POSTS, BINDING (See Connectors)

POTENTIAL DETECTORS (See Detectors, Potential)

POTENTIOMETERS, Automatic Control
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Coleman Elec. Co.
Dickson Co.
Foxboro Co.
Leeds & Northrup Co.

POTENTIOMETERS, Automatic Control (Cont'd)
Lewis Engg. Co.
Mason Neilan Regulator
Spence Engineering Co.
Tagliabue Mfg Co.
Taylor Inst. Cos.
Weston Elec. Inst. Corp.
Wheelco Inst. Co.

POTENTIOMETERS, Automatic Self Balancing
Bailey Meter Co.
Bristol Co.
Electronic Prod. Co.
Foxboro Co.
Leeds & Northrup Co.
Lewis Engg. Co.
Tagliabue Mfg. Co.
Weston Elec. Inst. Corp.

POTENTIOMETERS, Indicating
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Dickson Co.
Foxboro Co.
General Elec. Co.
Hellige, Inc.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Remler Co., Ltd.
Rubicon Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument
Wheelco Inst. Co.
Weston Elec. Inst. Corp.

POTENTIOMETERS, Recording
American Inst. Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Clarostat Mfg. Co.
Foxboro Co.
Leeds & Northrup Co.
Lewis Engg. Co.
Mason Neilan Regulator
Tagliabue Mfg. Co.
Thwing-Albert Instrument
United Cinephone Corp.

POWDERED MATERIALS MEASUREMENTS (See Granular Materials)

POWER FACTOR INDICATORS
Clough-Brengle Co.
General Elec. Co.
Hickok Elec. Inst. Co.
Leeds & Northrup Co.
Roller-Smith Co.
Sensitive Research Inst.
Westinghouse Elec. & Mfg.

POWER FACTOR RECORDERS
Esterline-Angus Co.
General Elec. Co.
Leeds & Northrup Co.
Roller-Smith Co.
Westinghouse Elec. & Mfg.

POWER FACTOR REGULATORS
Allis-Chalmers Mfg.
Elec. Facilities Inc.
Leeds & Northrup Co.
Vaughn-G. E. Witt Co.

POWER-LEVEL INDICATORS
Clough-Brengle Co.
General Elec. Co.
General Radio Co.
Hickok Elec. Inst. Co.
Shallcross Mfg. Co.
Sound Apparatus Co.
Westinghouse Elec. & Mfg.

PRECISION-BORE GLASS TUBING
Ace Glass Inc.
Fischer & Porter
Fish-Schurman Co.
Scientific Glass

PRESSES, Laboratory
American Inst. Co.
Baldwin-Southwark Corp.
Central Scientific Co.
Eimer & Amend
Hydraulic Press Co.
Microchemical Service
Williams Apparatus

PRESSES, PELLET
Central Scientific Co.
Eimer & Amend
Hannifin Mfg. Co.
Parr Instrument Co.

PRESSURE CONTROLLERS, AUTOMATIC (See Controllers, Automatic, Pressure)

PRESSURE, High (Above 1000 lbs.) Indicators
Abercrombie Pump Co.
Area Regulators, Inc.
Atlas Valve Co.
Bailey Meter Co.
Baldwin-Southwark Corp.
Brooke Eng. Co.
Brown Inst. Co.
Crosby Steam Gage Co.
Fisher Governor Co.
Foxboro Co.
Heise Bourdon Tube Co.
Kollsman Inst. Co.
Kurman Electric Co.
Linde Air Products Co.
Marsh Corp.
Mason Neilan Regulator
McAlear Mfg. Co.
RCA Manufacturing Co.
Republic Flow Meters
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thrush & Co., H. A.
Trerice Co.

PRESSURE, HIGH (Above 1000 lbs.) Recorders
Bailey Meter Co.
Baldwin-Southwark Corp.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Cash Co.
Commercial Engg. Labs.
Crosby Steam Gage Co.
Dickson Co.
Esterline-Angus Co.
Foxboro Co.
Hydraulic Press Co.
Kurman Electric Co.
Linde Air Products Co.
Marsh Corp.
Mason-Neilan Regulator
Republic Flow Meters Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.

PRESSURE, HIGH (Above 1000 lbs.) Testing Devices
Bailey Meter Co.
Baldwin-Southwark Corp.
Crosby Steam Gage Co.
Foxboro Co.
Holz, Herman A.
Kurman Electric Co.
RCA Manufacturing Co.
Refinery Supply Co.
Walter Ruska & Co., Inc.
Star Brass Mfg. Co.

PRESSURE INDICATORS, Bellows
Autocall Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Crosby Steam Gage Co.
Defender Automatic Reg.
Dickson Co.
Hagan Corp.
Mason Neilan Regulator
Morey & Jones, Ltd.
Precision Therm. & Inst.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

PRESSURE INDICATORS, Bourdon-tube
Bailey Meter Co.
Baldwin-Southwark Corp.
Bristol Co.
Brown Inst. Co.
Crosby Steam Gage Co.
Dickson Co.
Foxboro Co.
Halpern, Walter J.
Heise Bourdon Tube Co.
Hoke, Inc.
Kenyon Instrument Co.
Kollsman Inst. Co.
Marsh Corp., Jas. P.
Mason-Neilan Regulator
Republic Flow Meters
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.

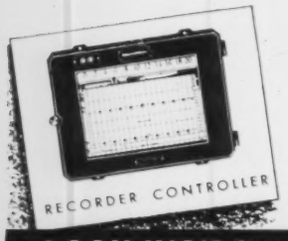
PRESSURE INDICATORS, Diaphragm, etc.
Abercrombie Pump Co.
Bailey Meter Co.
Brown Inst. Co.
Dickson Co.
Foxboro Co.
Hagan Corp.
King-Seeley Corp.
Kollsman Inst. Co.
Marsh Corp., Jas. P.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Powers Regulator Co.
Rochester Mfg. Co.
Tagliabue Mfg. Co.

PRESSURE INDICATORS, Electrical-resistance
Baldwin-Southwark Corp.
General Elec. Co.
Hagan Corp.
Kurman Electric Co.
Rubicon Co.

PRESSURE INDICATORS, Inverted-bell
Bacharach Indus. Inst.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Dickson Co.
Foxboro Co.
Hagan Corp.
Mason Neilan Regulator
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Uehling Inst. Co.

PRESSURE INDICATORS, Membrane
Bailey Meter Co.
Dickson Co.
Mason-Neilan Regulator

PRESSURE INDICATORS, Piezoelectric
Batcher, Ralph R.
Brush Development Co.
Commercial Engg. Labs.
RCA Manufacturing Co.



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For addresses, see pages 56-64

PRESSURE INDICATORS, Piston, Weight-loaded
American Inst. Co.
Bailey Meter Co.
Hagan Corp.

PRESSURE INDICATORS, Sing.e-tube, liquid column
Bacharach Indus. Inst.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Gas App. Specialties
Morey & Jones, Ltd.
Precision Therm. & Inst.
Uehling Instrument Co.

PRESSURE INDICATORS, Sp.ing-loaded piston
Bacharach Indus. Inst.
Commercial Engg. Labs.
Hagan Corp.

PRESSURE INDICATORS, U-tube
Bacharach Indus. Inst.
Bailey Meter Co.
Connelly Iron Sponge
Consol. Asheroft Hancock
Detroit Air Meter Co.
Dwyer Mfg. Co.
Friez & Sons
Gas App. Specialties
Halpern, Walter J.
Mason-Neilan Regulator
Meriam Co.
Moeller Instrument Co.
Morey & Jones, Ltd.
Precision Therm. & Inst.
Rennery Supply Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Uehling Instrument Co.

PRESSURE RECORDERS, Bellows
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Consol. Asheroft Hancock
Dickson Co.
Esterline-Angus Co.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Tagliabue Mfg. Co.
Taylor Inst. Cos.

PRESSURE RECORDERS, Bourdon tube
Bailey Meter Co.
Baldwin-Southwark Corp.
Bris ol Co.
Brown Inst. Co.
Consol. Asheroft Hancock
Dickson Co.
Esterline-Angus Co.
Foxboro Co.

PRESSURE RECORDERS, Bourdan Tube (Cont'd)
Improved Gauge Mfg. Co.
Kenyon Instrument Co.
Leeds & Northrup Co.
Marsh Corp., Jas. P.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thrush & Co., H. A.
Trerice Co.

PRESSURE RECORDERS, Capiular spring
Tagliabue Mfg. Co.

PRESSURE RECORDERS, Diaphragm
Bailey Meter Co.
Brown Inst. Co.
Foxboro Co.
Dickson Co.
Marsh Corp., Jas. P.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Tagliabue Mfg. Co.

PRESSURE RECORDERS, Electrical-resistance
Republic Flow Meters

PRESSURE RECORDERS, Inverted-bell
Bacharach Indus. Inst.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Dickson Co.
Foxboro Co.
Leeds & Northrup Co.
Mason-Neilan Regulator
Taylor Inst. Cos.
Uehling Instrument Co.

PRESSURE RECORDERS, Membrane
Mason-Neilan Regulator

PRESSURE RECORDERS, Piezoelectric
Brush Development Co.
RCA Manufacturing Co.

PRESSURE RECORDERS, Piston, weight-loaded
Bailey Meter Co.

PRESSURE RECORDERS, Single-tube liquid column
Trerice Co.
Uehling Instrument Co.

PRESSURE RECORDERS, Spring-loaded piston
Bacharach Indus. Inst.
Baldwin-Southwark Corp.
Commercial Engg. Labs.
Esterline-Angus Co.

PRESSURE RECORDERS, U-tube
Bailey Meter Co.
Brown Inst. Co.
Foxboro Co.
Mason-Neilan Regulator
Republic Flow Meters
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Uehling Instrument Co.

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Brown Inst. Co.
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Martin Decker Corp.
McAlear Mfg. Co.
Meriam Co.
National Engg. Prods.

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Fish-Schurman Co.
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Fuess, Inc.
Gaertner Scientific Corp.
Goerz Amer. Optical Co.
Kern Co.
Keuffel & Esser Co.
Kollmorgen Optical Co.
Machlett & Son
Master Optical Co.
Perkin Elmer & Moffitt
Rieker Inst. Co.
Spencer Lens Co.
Valpey Crystals
Woermann-Schuchhardt

PROCESS TIMING INSTRUMENTS (See Timers, Automatic Process)

PROGRAM CLOCKS (See Timers, Automatic Process)

PROJECTORS, Color Film
Bausch & Lomb Optical
Bell & Howell Co.
Leitz, Inc.
Spencer Lens Co.
Woermann-Schuchhardt

PROJECTORS, Film Slide, Lantern Slide & Opaque Object
Bausch & Lomb Optical
Leitz, Inc.
Spencer Lens Co.
Woermann-Schuchhardt
Zeiss, Inc.

PROTRACTORS, Bevel (See Drawing Instruments)

PROTRACTORS, Course
Alpha Instrument Co.
Bliss & Co.
Eastern Science Co.

PROTRACTORS, Course (Cont'd)
Kenyon Instrument Co.
Keuffel & Esser Co.
Marine Compass Co.
Negus, T. S. & J. D.
Pioneer Instrument Co.
Warren-Knight Co.

PROTRACTORS, Navigators (See Protractors, Course)

PROTRACTORS, Transparent (See Drawing Instruments)

PROVERS, Gas Meter
Lambert Meter Co., Inc.
Pittsburgh Equit. Meter

PROVERS, Water Meter
Pittsburgh Equit. Meter

PROVING RINGS
Baldwin-Southwark Corp.
Holz, Herman A.
Morehouse Machine Co.
Olsen Testing Machine
Pittsburgh Inst. & Mach.

PSYCHOLOGY LABORATORY APPARATUS
Batchet, Ralph R.
Brush Development Co.
Electro-Medical Lab.
General Radio Co.
Phipps & Bird, Inc.

PSYCHROMETERS, Aspiration
American Moistening Co.
Friez & Sons
Fuess, Inc.
G. M. Mfg. Co., Inc.
H-B Inst. Co., Inc.
Mason-Neilan Regulator
Moeller Instrument Co.
Palmer Co.

PSYCHROMETERS, Atomizing
Parks-Cramer Co.

PSYCHROMETERS, Electric (See Psychrometers, Aspiration)

PSYCHROMETERS, Recording (See Hygrometers, Recording)

PSYCHROMETERS, Sling
Accuracy Scientific Inst.
American Inst. Co.
American Moistening Co.
Central Scientific Co.
Chicago Apparatus Co.
Foxboro Co.
Fried & Lustig
Friez & Sons
Fuess, Inc.
G. M. Mfg. Co., Inc.

PSYCHROMETERS, Sling (Cont'd)
Green, Henry J.
H-B Inst. Co., Inc.
Huddleston, J. S. F.
Johnson Service Co.
Moeller Instrument Co.
Palmer Co.
Parks-Cramer Co.
Phila. Thermometer Co.
Precision Therm. & Inst.
Scientific Inst. Co.
Taylor Inst. Cos.
Trerice Co.
Warren-Knight Co.

PUBLIC HEALTH TESTING EQUIPMENT
American Inst. Co.
Central Scientific Co.
Chicago Apparatus Co.
Fisher Scientific Co.
Hellige, Inc.
LaMotte Chemical Prod.
Precision Scientific Co.
Rieker Inst. Co.
Rubicon Co.
Scientific Glass App.
Taylor & Co., Inc. W. A.

PULSATION DAMPER (See Pressure Snubber)

PULVERIZED MATERIALS MEASUREMENTS (See Granular Materials)

PUMPS, High Vacuum
Central Scientific Co.
Chicago Apparatus Co.
Distillation Prods., Inc.
Machlett & Son
Nelson, George F.
Refinery Supply Co.
Scientific Glass App.
Sterling Eng. Co.
Welch Mfg. Co.

PYCNOMETERS
Eimer & Amend
Fisher Scientific Co.
G. M. Mfg. Co.
Raschet & Betzold
Specialty Glass Co.

PYRHELIOMETERS
Cambridge Inst. Co.
Eppley Lab.
Leeds & Northrup Co.

PYROMETER CALIBRATING SETS
Brown Inst. Co.
Cambridge Inst. Co.
Foxboro Co.
Leeds & Northrup Co.
Lewis Engineering
Rubicon Co.
Tagliabue Mfg. Co.
Thwing-Albert Inst. Co.

PYROMETERS, Electrical Resistance
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Dickson Co.
Foxboro Co.
General Elec. Co.
Ill. Testing Labs.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Roller-Smith Co.
Rubicon Co.
Tagliabue Mfg. Co.
Thwing-Albert Inst. Co.
Wheelco Inst. Co.

PYROMETERS, Expansion
Defender Automatic Reg.
Fetner Co.
Partlow Corp.
Tagliabue Mfg. Co.

PYROMETERS, Indicating
Bacharach Indus. Inst.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Burling Inst. Co.
Electronic Prod. Co.
Engelhard, Chas.
Foxboro Co.
Ill. Testing Labs.
Leeds & Northrup Co.
Lewis Engg. Co.
Partlow Corp.
Pyrometer Inst. Co.

PYROMETERS, Indicating (Cont'd)
Roller-Smith Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Millivoltmetric
Am. Gas Furnace Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Engelhard, Chas.
Foxboro Co.
Hoskins Mfg. Co.
Ill. Testing Labs.
Pyrometer Instrument Co.
Rubicon Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Optical
Bacharach Indus. Inst.
Brown Inst. Co.
Cambridge Inst. Co.
Fisher Scientific Co.
Leeds & Northrup Co.
Pyrometer Instrument Co.

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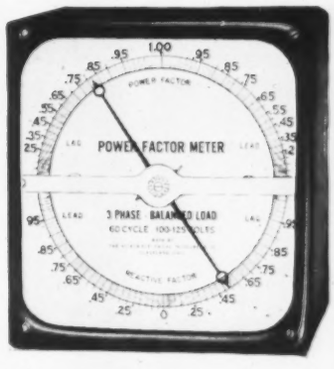

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MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
To Measure and Control is to Economize

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Ill. Testing Labs.
Leeds & Northrup Co.
Lewis Engg. Co.
Pyrometer Instrument Co.
Rubicon Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Potentiometric
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Dickson Co.
Foxboro Co.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Rubicon Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Radiation, Controlling
Am. Gas Furnace Co.
Bacharach Indust. Inst.
Bailey Meter Co.
Brown Inst. Co.
Cambridge Inst. Co.
Engelhard, Chas.
Foxboro Co.
General Elec. Co.
Ill. Testing Labs.
Leeds & Northrup Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Radiation, Indicating
Bachrach Industrial Inst.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
General Elec. Co.
Leeds & Northrup Co.
Pyrometer Instrument Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Radiation, Recording
Bachrach Industrial Inst.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
General Elec. Co.
Leeds & Northrup Co.
Pyrometer Instrument Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument

PYROMETERS, Thermoelectric, Immersion
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
General Elec. Co.
Ill. Testing Labs.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Partlow Corp.
Pyrometer Inst. Co.
Roller-Smith Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument
Woermann Schuchhardt

PYROMETERS, Thermoelectric, Indicating
Am. Gas Furnace Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Foxboro Co.
Hebler Co.
Hoskins Mfg. Co.
Ill. Testing Labs.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Partlow Corp.
Pyrometer Instrument Co.
Roller-Smith Co.
Rubicon Co.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Thermoelectric, Recording & Controlling
Bacharach Indust. Inst.
Bailey Meter Co.
Reck Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Engelhard, Chas.
Foxboro Co.
General Elec. Co.
Ill. Testing Labs.
Leeds & Northrup
Lewis Engg. Co.
Mason-Neilan Regulator
Partlow Corp.
Pyrometer Instrument Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument

PYROMETERS, Thermoelectric, Surface Contact
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Foxboro Co.
General Elec. Co.
Ill. Testing Labs.
Lewis Engg. Co.
Pyrometer Instrument Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument

PYROMETRIC CONES (See Cones, Pyrometric)

QUARTZ, Fused Quartz Apparatus
Hanovia Chem. & Mfg.
Thermal Syndicate Ltd.

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Falstrom Co.

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Andrew, Victor J.
United Cinephone Corp.
Wallace & Tiernan

RADIO FREQUENCY METERS
Andrew, Victor J.
Clough-Brengle Co.
Ferris Inst. Corp.
General Elec. Co.
Hickok Elec. Inst. Co.
Lampkin Laboratories
Rawson Electrical Inst.
RCA Manufacturing Co.
Roller-Smith Co.
Sensitive Research Inst.
Simpson Elec. Co.
Triplett Electrical Inst.
Weston Elec. Inst. Corp.

RADIO FREQUENCY OSCILLATORS (See Oscillators, Radio Frequency)

RADIO-MICROMETERS (See Micrometers, Radio)

RADIO REMOTE CONTROL SYSTEMS
American Automatic Elec.
McFarlin Co.
RCA Manufacturing Co.
United Cinephone Corp.
Wallace & Tiernan

RADIO SET ANALYZERS (See Analyzers, Radio Set)

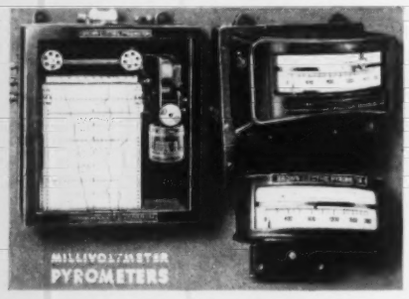
RADIO TEST PANELS (See Panels, Radio Test)

RADIO TUBE CHECKERS (See Checkers, Radio Tube)

RAIN GAGES
Ballauf Mfg. Co.
Central Scientific Co.
Friez & Sons
Fuess, Inc.
Green, Henry J.
Gurley, W. & L. E.
Keuffel & Esser Co.
Leupold, Volpel & Co.
Precision Therm. & Inst.
Taylor Inst. Cos.
Warren-Knight Co.
White Co., Inc.

RAINFALL RECORDERS
Esterline-Angus Co.
Friez & Sons
Fuess, Inc.
Green, Henry J.
Leupold, Volpel & Co.
Taylor Inst. Cos.

RANGE FINDING INSTRUMENTS
Fecker, J. W.
Gaertner Scientific Corp.
Kern Co.
Keuffel & Esser Co.
Kollmorgen Optical Co.
Leitz, Inc.
Precision Therm. & Inst.
White Co., Inc.



For Controlling, Recording and Indicating Temperatures from 0 to 3000°F.

A direct-reading, simple and sturdy pyrometer, especially suited for industrial applications where simplicity and ruggedness are of greater importance than extreme accuracy. The instrument can be calibrated to compensate for long lengths of extension lead wire between thermocouples and instrument. No dry cells or standard cells required.

Charts and scales for a wide variety of ranges are available, from a minimum temperature span of 800 F to a maximum span of 3000 F. Corresponding Centigrade scales and charts are also available.

Pyrometer accessories, such as thermocouples and extension lead wire, furnished with instruments to meet the requirements of each job.

Write for Catalog 1103, THE BROWN INSTRUMENT COMPANY, *a division of Minneapolis-Honeywell Regulator Co.*, 4482 Wayne Avenue, Philadelphia, Pa.

BROWN PYROMETERS
AND
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
To Measure and Control is to Economize

WORTH INVESTIGATING

There's a new concept of value in J-B-T Instruments, backed by 30 years of pioneering.

J-B-T

Indicating Pyrometer Model 70-J; 6" scale, optional range; sturdy but sensitive Triplett micro-ammeter; fully compensated; high torque to weight ratio; dust proof; spray proof; 25' lead; 2' insulated thermocouple; $55 *(less Manufacturer's Discount)*.

Write for literature and prices on radically new potentiometer which, once balanced and adjusted, continues to indicate true temperature without further balancing operation on any number of thermocouples and regardless of lead resistance; also resistance thermometers and other items as indexed.

J-B-T INSTRUMENTS, INC.
441 Chapel Street, New Haven, Conn.

TAG CELECTRAY PYROMETERS

BETTER TEMPERATURE CONTROL . . .
MORE ACCURATE TEMPERATURE RECORD

The simple, modern design of rugged CELECTRAY Pyrometers offers Industry—

High Sensitivity Control—Accurate and Fast Recording

Write for Catalog No. 1101-I.

C. J. TAGLIABUE MFG. CO.
Park & Nostrand Aves., Brooklyn, N. Y.

LOOK INSIDE the COVER (Part 1) *See How* TAG RECORDERS *Save You Money* TAG

For addresses, see pages 56-64

RANGE POLES (See Surveying Instruments)

REACTANCE METERS
Andrew, Victor J.
General Radio Co.
Premier Crystal Labs.
Rubicon Co.

READING LENSES, Thermometer & Burette (See Lenses, Reading)

RECORDERS (See object of measurement and control)

RECORDERS, SOUND
Miles Reproducer Co.

RECTIFIERS, Dry Disc
Am. Automatic Electric
Benwood Linze Co.
General Elec. Co.
Raytheon Mfg. Co.
Standard Elec. Time
United Transformer Corp.

RECTIFIERS, Power
Allis-Chalmers Mfg.
Applied Research Labs.
Eclipse Aviation
Electro Products Labs.
General Elec. Co.
Raytheon Mfg. Co.
United Transformer Corp.

RECTIFIERS, Thermionic
American Automatic Elec.
Andrew, Victor J.
Continental Elec. Co.
DuMont Labs., Inc., A.B.
Electro Products Labs.
Electrons, Inc.
General Elec. Co.
Hy-Ef Elec. Products
Jones-Orme Co.
Raytheon Mfg. Co.

RECTIFIERS, Thermionic (Cont'd)
RCA Manufacturing Co.
United Cinephone Corp.
United Transformer Corp.

REDUCING MOTIONS, ENGINE INDICATOR
Bacharach Indust. Inst.
Crosby Steam Gage Co.
Robertson, 3rd, J. L.
Trill Indicator Co.

REFLECTIONMETERS
Akatos, Inc.
Luxtrol Co., Inc.
Pfaltz & Bauer, Inc.
Woermann Schuchhardt

REFLECTOMETERS
Akatos, Inc.
American Inst. Co.
Higgins, Charles F.
Leeds & Northrup Co.
Woermann Schuchhardt

REFLECTORS, Aspherical
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin, Elmer & Moffitt

REFLECTORS, Black Light
Black-Ray Lighting Co.

REFLECTORS, Concave
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin, Elmer & Moffitt
Tinsley Labs.

REFLECTORS, First Surface
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Master Optical Co.
Perkin, Elmer & Moffitt
Tinsley Labs.

REFLECTORS, Heat Resisting
Am. Telescope Labs.
Bausch & Lomb Optical
Fish-Schurman Co.
Fuess, Inc.
Perkin, Elmer & Moffitt

REFLECTORS, Parabolic
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin, Elmer & Moffitt
Tinsley Labs.
Weber Bros. Metal Works

REFLECTORS, Spherical
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin, Elmer & Moffitt
Tinsley Labs.

REFLECTORS, Stellite
American Telescope Labs.
Bausch & Lomb Optical
Fecker, J. W.
Kollmorgen Optical Co.
Perkin, Elmer & Moffitt

REFRACTOMETERS
Akatos, Inc.
Bausch & Lomb Optical
Central Scientific Co.
Fuess, Inc.
Industro Scientific Co.
Ruska & Co.
Spencer Lens Co.
Zeiss, Inc., Carl

REFRACTORY TUBES
Coors Porcelain Co.

REGULATORS, AUTOMATIC (See also Controls, Automatic; and object of measurement and control)

REGULATORS, AUTOMATIC, Air
Acme Regulator Co.
American Meter Co.
Area Regulators, Inc.
Askania Regulator Co.
Bailey Meter Co.
Bastian-Blessing Co.
Boekel & Co.
Boylston Co.
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Connelly Iron Sponge
Consol. Ashcroft Hancock
Cutler-Hammer, Inc.
Davis Reg. Co.
D'Este Co.
Detroit Lubricator

REGULATORS, AUTOMATIC, Air (Cont'd)
Dockson Co.
Fisher Governor Co.
Foster Engg. Co.
Foxboro Co.
Friez & Sons
Gas Appliance Specialties
General Regulator Corp.
Hagan Corp.
Hanlon-Waters, Inc.
Hoke, Inc.
Judson Governor Co.
Kiely & Mueller
Lammert & Mann Co.
Leslie Co.
Linde Air Products Co.
Mason Neilan Regulator
McAlear Mfg. Co.
McCorkle Co.
Mercoid Regulator Co.
National Airoil Burner
Natural Gas Equipment
Northern Equip. Co.
Parks-Cramer Co.
Partlow Corp.
Payne Furnace & Supply
Penn Electric Switch Co.
Pgh. Equitable Meter
Powers Regulator Co.
Preferred Utilities Mfg.
Republic Flow Meters
Reynolds Gas Regulator
Robertshaw Thermostat
Ruggles-Klingemann
Schade Valve Mfg.
Sprague Meter Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
United Cinephone Corp.
Vaughn G.E. Witt Co.

REGULATORS, AUTOMATIC, Air (Cont'd)
Victor Equipment Co.
Watts Regulator Co.
White-Rodgers Electric
Wilgus Mfg. Co.

REGULATORS, AUTOMATIC, Atmospheric
Foxboro Co.
Mason-Neilan Regulator
Parks-Cramer Co.
Powers Regulator Co.
Robertshaw Thermostat

REGULATORS, AUTOMATIC, Boiler
Askania Regulator Co.
Bailey Meter Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Connelly Iron Sponge
Fisher Governor Co.
Foster Engg. Co.
Foxboro Co.
General Regulator Corp.
Hagan Corp.
Hays Corp.
Hanlon-Waters, Inc.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
National Brass Co.
Natural Gas Equipment
Penn Electric Switch
Perfex Corp.
Republic Flow Meters
Robertshaw Thermostat
Ruggles-Klingemann
Tagliabue Mfg. Co.
Wilgus Mfg. Co.

(Continued on page 34)

PYRO THE SIMPLIFIED OPTICAL PYROMETER

YOU cannot afford NOT to own one!

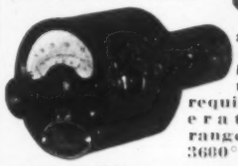
Because it eliminates guesswork, waste and spoilage; it pays for itself quickly. PYRO is a **SELF-CONTAINED, DIRECT - READING, STURDY** unit made to stand rough use but it is absolutely accurate and dependable.

Unique construction enables operator to rapidly determine temperature even on minute spots, fast moving objects or the smallest streams; no correction charts, no accessories, no upkeep.

Stock Ranges: 1400° to 5500° F.

PYRO RADIATION PYROMETER

Ideal for furnace or kiln use. Gives actual heat of material

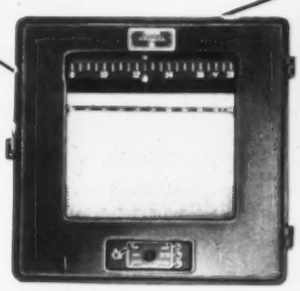


aside from furnace or kiln temperature. Does not require skilled operater. Stock ranges 1000° to 3600° F.

Write or special bulletins

THE PYROMETER INSTRUMENT CO.
103-107 LAFAYETTE ST., NEW YORK, N. Y.
311 ROSS ST., PITTSBURGH, PA.

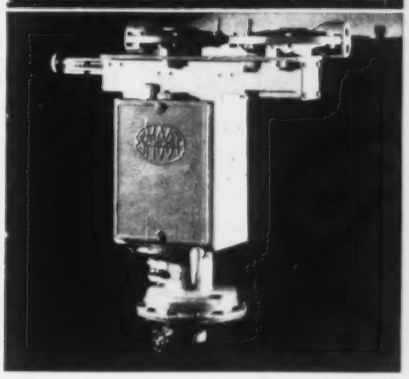
FOXBORO REG. U.S. PAT. OFF. **PYROMETERS**



The Foxboro Pyrometer line embraces a variety of types including Indicators, Controllers and Recorder Controllers. Single and multiple recording instruments up to eight records on one chart are available. The Recorder Controller is made in several types, both air- and electrically-operated, to fill practically every conceivable need.

For complete information write for Bulletin No. 190-3. The Foxboro Company, 46 Neponset Avenue, Foxboro, Mass., U.S.A. Branch offices in 25 Principal Cities.

REGULATORS

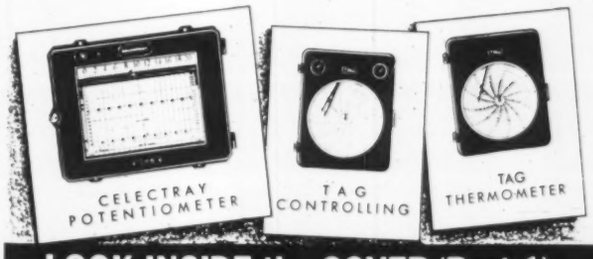


Republic-Smoot regulators are supplied for the automatic control of pressure, rate of flow, speed of rotation, level of a liquid or the proportioning of two pressures, flows, etc., in a fixed ratio by mechanically operating a valve, damper, rheostat or various types of variable speed transmissions.

Republic-Smoot regulators may be either oil or air operated. Their extreme flexibility in application and the degree to which they meet the four requirements of sensitivity, power, speed and stability, had been responsible to a large degree for the outstanding success of Republic-Smoot control systems.

WRITE FOR DATA BOOK No. S-13

REPUBLIC FLOW METERS CO.
2249 DIVERSEY PKWY., CHICAGO, ILLINOIS



TAG RECORDERS

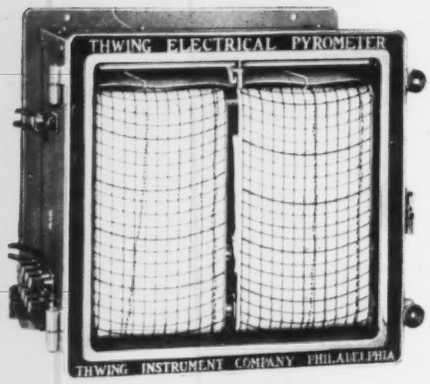
These instruments are designed to record all temperatures from minus 200°C. up, and all industrial pressures. Ask for Catalogs—They graphically suggest the usefulness of TAG TEMPERATURE RECORDERS and PRESSURE RECORDERS for service and economy in your plant.

C. J. TAGLIABUE MFG. CO.
Park & Nostrand Aves., Brooklyn, N. Y.

LOOK INSIDE the COVER (Part 1) *See How* **TAG RECORDERS** *Save You Money* TAG

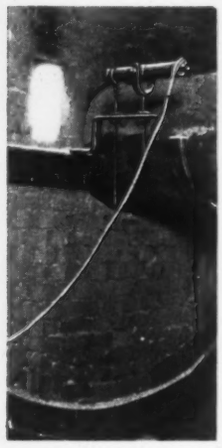
For addresses, see pages 56-64

THWING-ALBERT Plant

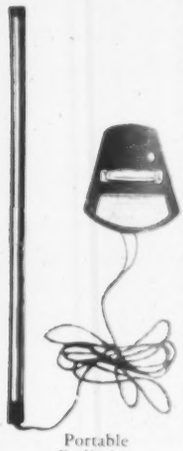


Multiple Recording Pyrometer

Indicating Pyrometer combined with Selector Switch



Radiation Pyrometer for Rotary Kiln



Portable Radiation Pyrometer

Treasure Chest Pyrometer and Thermocouple Testing Set

TEMPERATURE MEASURING, CONTROL AND TESTING INSTRUMENTS

RECORDING PYROMETERS: Single record and multiple recording types. Continuous roll charts. Automatic chart re-roll. Patented dot and dash system of recording. Synchronous electric motor drive. Metal case construction. Accurate, simplified and rugged.

Furnished for use with either base metal or platinum thermocouples, radiation pyrometer receiving tubes or electrical resistance thermometer bulbs.

INDICATING PYROMETERS: Single indicating type or multiple point indicating type. Model 30 Pyrometer, illustrated, unit construction. Indicating Pyrometer and selector switch contained in a single moisture, fume and dust-proof metal case. Furnished with switch capacities 4, 6, 8, 12, 16, 24 and 32 points and off position. Suitable especially for diesel engine service, ceramic plants, etc.

RADIATION PYROMETERS: For indicating and recording all high temperatures. No part of pyrometer installed in the heat source. Accurate to the highest temperatures. Radiation receiving tubes are designed and manufactured for permanent installation. Suitable especially for the lime, cement, refractories, glass and steel industries. Portable radiation pyrometer applicable for various service. Temperature readings in 15 seconds.

FOUNDRY PYROMETERS: For non-ferrous metals; A5X Pyrometer with extensible magazine thermocouple. Junctions made by twisting wires together tightly. Temperature readings in 8 seconds.

For ferrous metals; A5F Pyrometer with protected, replaceable thermocouple. Temperature readings in one minute.

PYROMETER TESTING SET: Treasure Chest, a two point portable potentiometer and a pyrometer and thermocouple testing set combined in the one instrument.

Self checking with Electrocrit checking circuit. Range 101 millivolts. Accuracy 1/10 of one percent. Checks all types and all makes of pyrometers and thermocouples.

THERMOCOUPLES: Base Metal and Noble Metal (Platinum, platinum-rhodium).

Furnished with protection tubes to suit individual installation conditions.

AUTOMATIC TEMPERATURE CONTROLLER: Controls automatically and accurately industrial temperature processes. Furnished for operation in conjunction with recording and indicating pyrometers. Applicable to oil, gas and electrically heated furnaces.

PORTABLE pH METERS: Range 0 to 14 pH. Direct reading in pH units.

Model 1 — Simple potentiometric circuit using quinhydrone or antimony electrodes.

Model 2 — Vacuum tube potentiometric circuit using glass electrodes and/or quinhydrone and antimony electrodes.

A5X Pyrometer for molten non-ferrous metals

Automatic Temperature Controller

Portable pH Meter

Thwing-Albert

Manufacturers of Scientific

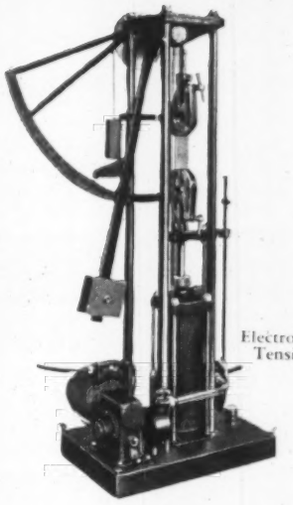
3323 LANCASTER AVE.

Commercial

Catalogs Available on Complete

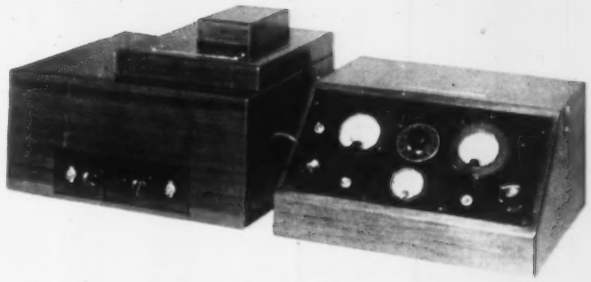
nd Laboratory Instruments

Platinum Thermo-couple

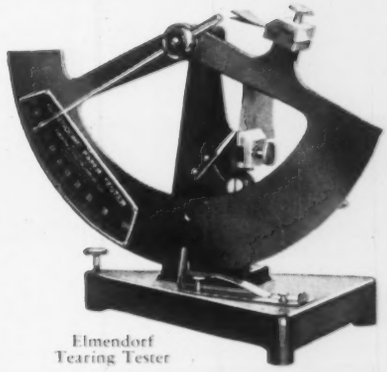


Electro Hydraulic Tensile Tester

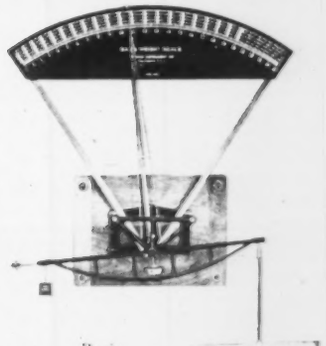
Research Tearing Tester



Formation Tester for Paper



Elmendorf Tearing Tester



Basis Weight Scale

Stiffness-Softness Tester for Paper

ELECTRO-HYDRAULIC TENSILE TESTER: For testing paper, textiles, fine wire, single thread, skein yarn, card board, ply wood, etc. Tensile and elongation tests made to conform with A.S.T.M. and T.A.P.P.I. official testing methods. Operated by electro-hydraulic power. Completely self-contained. Can be furnished with graphic recording device to record tensile stress and elongation of individual specimens.

PAPER TESTING INSTRUMENTS.

ELMENDORF TEARING TESTER: Determines tearing strength of paper and allied products, textile fabrics, cinema film, etc. Operates by gravity. Gives readings in force grams required to tear materials. Standard tearing tester of paper industry.

RESEARCH TEARING TESTER: For research and exploratory testing of materials where sensitivity desired is finer than calibration of the standard Elmendorf Tearing Tester.

INITIAL TEAR TESTER (not illustrated): Measures the initial force required to start a tear. Direct reading, resistance to beginning of tear is indicated in force pounds. Especially suitable for testing box board, roofing felts, floor coverings, gasket papers, etc.

BASIS WEIGHT SCALES: Aristocrat Model and Desk Type.
Basis Weight Scales read directly weight per ream of paper by weighing a single sheet. Furnished with ranges to suit individual requirements. Useable for moisture content determinations.

BOX BOARD SCALES: A combination basis weight and sheet counting scale. Indicates on a single dial weight per ream and sheets per bundle.

PENETRATION TESTER: The Penescope provides visual method of testing papers and other materials for permeability to solutions.
Also, Water Jacketed Penescope with equipment to make penetration tests under controlled temperature conditions.

VAPOR TRANSMISSION TESTER: The Vapometer, a simple convenient instrument for testing the vapor transmission properties of paper.

STIFFNESS-SOFTNESS TESTER: Determines stiffness or softness properties by the flexibility of paper in a predetermined angle of rotation.
Research Tester has rollers to adjust length of specimen.
Routine Tester has snap clamp for tests on specimens of known length.

FORMATION TESTER: Measures objectively the property of paper known as Formation. Test specimen in scanning mechanism is moved at high velocity between photo electric cell and light source.
Variations in paper structure (formation) determined electrically. Reading on meter gives formation number. Constructed ruggedly. Simple to operate.

Penescope Penetration Tester

Vapometer Vapor Transmission Tester

Desk Type Basis Weight Scale

enstrument Co.

cientruments for 38 Years

PHILADELPHIA, U. S A.

ratory Accuracy

Boards and Paper Testing Instruments

Taylor

"FULSCOPE" Indicating Temperature & Pressure Controllers

Write for complete information and catalogs.

Taylor Instrument Companies

ROCHESTER, N.Y. TORONTO, CANADA

Taylor

"FULSCOPE" LIQUID LEVEL CONTROLLERS

Write for complete information and catalogs.

Taylor Instrument Companies

ROCHESTER, N.Y. TORONTO, CANADA

REGULATORS, AUTOMATIC, Compressed Gas
American Meter Co.
Bailey Meter Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Dickson Co.
Electrimatic Corp.
Fisher Governor Co.
Frick Co.
Hanlon-Waters, Inc.
Hoke, Inc.
Linde Air Products Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Merrow Regulator Co.
Natural Gas Equipment
Pgh. Equitable Meter
Republic Flow Meters
Reynolds Gas Regulator
Robertshaw Thermostat
Tagliabue Mfg. Co.
Victor Equipment Co.

REGULATORS, AUTOMATIC, Condensation (See Controllers, Automatic, Condensation)

REGULATORS, AUTOMATIC, Consistency (Paper & Pulp) (See Controllers, Automatic, Consistency)

REGULATORS, AUTOMATIC, Current
Allis-Chalmers Mfg. Co.
Amperite Corp.
Beck Bros.
Betts & Betts
Burlington Inst. Corp.
Cutler-Hammer, Inc.
General Elec. Co.
Monitor Controller Co.
Robertshaw Thermostat
Roller-Smith Co.

REGULATORS, AUTOMATIC, Damper (See Controllers, Automatic, Damper)

REGULATORS, AUTOMATIC, District (See Governors, District)

REGULATORS, AUTOMATIC, Draft (See Controllers, Automatic, Draft)

REGULATORS, AUTOMATIC, Drying Chamber
Powers Regulator Co.
United Cinephone Corp.

REGULATORS, AUTOMATIC, Feed Water
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.

REGULATORS, AUTOMATIC, Feed Water (Cont'd)
Brown Inst. Co.
Cochrane Corp.
Davis Reg. Co.
Defender Automatic Reg.
Getsegal Regulator Corp.
Hagan Corp.
Hanlon-Waters, Inc.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Merrow Regulator Co.
Natural Gas Equipment
Northern Equip. Co.
Ruggles-Klingemann
Stets Co.
Tagliabue Mfg. Co.
Vaughn-G. E. Witt Co.
Watts Regulator Co.
Wilgus Mfg. Co.
Williams Gauge Co.

REGULATORS, AUTOMATIC, Flow (See Controllers, Automatic, Flow)

REGULATORS, AUTOMATIC, Flow Proportioning (See Controllers, Automatic, Flow Proportioning)

REGULATORS, AUTOMATIC, Fluid Proportioning (See Controllers, Automatic, Fluid Proportioning)

REGULATORS, AUTOMATIC, Frequency
Burlington Inst. Corp.
General Elec. Co.
Warren Telechron Co.
Wheelco Inst. Co.

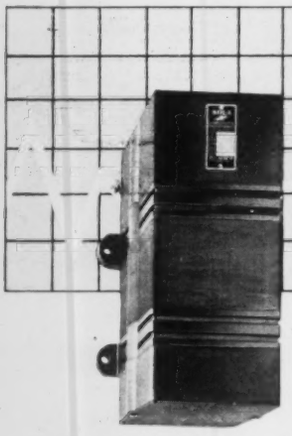
REGULATORS, AUTOMATIC, Furnace (See Controllers, Automatic, Furnace)

REGULATORS, AUTOMATIC, Gas (See Regulators, Automatic, Air)

REGULATORS, AUTOMATIC, Humidity (See Controllers, Automatic, Humidity)

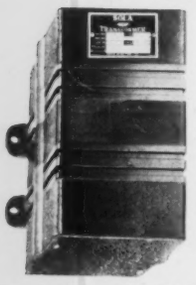
REGULATORS, AUTOMATIC, Liquid Level (See Controllers, Automatic, Liquid Level)

REGULATORS, AUTOMATIC, Load
Allis-Chalmers Mfg. Co.
Autom'c Valve Controller
Hays Corp.
Leeds & Northrup Co.



CONSTANT VOLTAGE

FOR YOUR LABORATORY . . . FOR YOUR PRODUCTION LINE . . . OR INCORPORATED IN YOUR PRODUCTS



For capacities above 200 VA. Housing type.

From 20—200 VA. Primary cord set, and output receptacle.

A new unit for applications up to 15 VA. Equipped with leads or terminals.

Whether it's 1 VA for an instrument or 10 KVA for a production line—if your needs call for stable voltage at all times, SOLA CONSTANT VOLTAGE TRANSFORMERS will deliver for you.

Fully automatic, instantaneous in operation, SOLA CONSTANT VOLTAGE TRANSFORMERS have no moving parts and require no maintenance. They are self-protecting and cannot be damaged by short circuit. AND—they will maintain their output voltage to within a fraction of a percent of the specified value, even though the line voltage varies *as much as thirty percent.*

You can build a SOLA CONSTANT VOLTAGE TRANSFORMER into your product and stop worrying about your customer's line voltage. There will be no burn-outs from over-voltage, no operating failures due to under-voltage and no erratic performance resulting from line transients.

You can build a SOLA CONSTANT VOLTAGE TRANSFORMER into your production line or your laboratory and know that every test will be made under the same line conditions, that those conditions will not change from the start of your test to its finish, and, above all, that if a short circuit occurs, there will be no fires, no ruined transformer, no blown fuses.

You'll find these SOLA CONSTANT VOLTAGE TRANSFORMERS surprisingly compact—and economical, too. To augment or replace non-regulating types, standard designs are available, or units can be built to your special specification. So—whether it's 1 VA for an instrument or 10 KVA for a production line—make it a SOLA and be sure! Our engineers will assist you in selecting the type best suited to your needs. *Write for Bulletin SM-22.11.*

SOLA

SOLA ELECTRIC CO. 2525 Clybourn Chicago, Illinois

S-M-O-O-T-H VOLTAGE CONTROL for A.C. circuits

The Type "TH" Transtat is the new continuously variable auto-transformer regulator . . . the ideal voltage control for a.c. circuits. It offers high efficiency, good regulation, great flexibility and dependable construction at moderate cost. Standard types are available for controlling voltage to single-phase and polyphase loads rated 10 Kva. and smaller, 50 or 60 cycles, 115, 230 or 460 volts. May we send you bulletin 51-1 which contains complete data?

TRANSTAT
VOLTAGE REGULATORS

AMERICAN TRANSFORMER CO.
178 Emmet St. Newark, N. J.

REGULATORS, AUTOMATIC, Oil Feed
Askania Regulator Co.
Atlas Valve Co.
Brown Inst. Co.
Cash Co.
D'Este Co.
Foster Engg. Co.
General Regulator Corp.
Hagan Corp.
Lammert & Mann Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
McCorkle Co.
National Airoil Burner
Republic Flow Meters
Spence Engineering Co.
Taylor Inst. Cos.
United Cinephone Corp.
Vaughn-G. E. Witt Co.
Wilgus Manufacturing

REGULATORS, AUTOMATIC, Power Factor
Allis-Chalmers Mfg. Co.
Leeds & Northrup Co.
United Cinephone Corp.

REGULATORS, AUTOMATIC, Pressure (See Controllers, Automatic, Pressure)

REGULATORS, AUTOMATIC, Pump
Allen-Bradley Co.
Area Regulators, Inc.
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Belfield Co.
Boylston Co.
Brown Inst. Co.
Builders Iron Foundry
Cash Co.
Davis Reg. Co.
D'Este Co.
Fisher Governor Co.
Ford Reg. Valve Co.
Foster Engg. Co.
Furnas Electric Co.
General Regulator Corp.
Hagan Corp.
Hanlon-Waters, Inc.
Hydraulic Press Co.
Klipfel Mfg. Co.
Leslie Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Mercon Regulator Co.
Northern Equip. Co.
Penn Electric Switch
Republic Flow Meters
Water Level Controls Co.
Schade Valve Mfg. Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Vaughn-G. E. Witt Co.
Watts Regulator Co.
Wilgus Mfg. Co.

REGULATORS, AUTOMATIC, Refrigeration (See Controllers, Automatic, Refrigeration)

REGULATORS, AUTOMATIC, RKVA
Allis-Chalmers Mfg. Co.

REGULATORS, AUTOMATIC, Safety Fuel Shut-Off (See Valves, Automatic, Safety Fuel Shut-Off)

REGULATORS, AUTOMATIC, Speed (See Controllers, Automatic, Speed)

REGULATORS, AUTOMATIC, Steam (See Regulators, Automatic, Pressure)

REGULATORS, AUTOMATIC, Steam Pressure (See Regulators, Automatic, Pressure)

REGULATORS, AUTOMATIC, Synchronizing
Allis-Chalmers Mfg. Co.
Industrial Engr. Corp.
Magnetic Gauge Co.

REGULATORS, AUTOMATIC, Temperature (See Controllers, Automatic, Temperature)

REGULATORS, AUTOMATIC, Time (See Controllers, Automatic, Time)

REGULATORS, AUTOMATIC, Vacuum (See Controllers, Automatic, Vacuum)

REGULATORS, AUTOMATIC, Viscosity (See Controllers, Automatic, Viscosity)

REGULATORS, AUTOMATIC, Voltage
Allis-Chalmers Mfg. Co.
American Transformer
Amperite Corp.
Burlington Inst. Corp.
Clarostat Mfg. Co.
Eclipse Aviation
Ferris Inst. Corp.
Electronic Prod. Co.
General Elec. Co.
Ideal Commuto'r Dresser
International Resistance
Jones-Orme Co.
Luxtrol Co., Inc.
Miller Co., Bertrand F.
Raytheon Mfg. Co.
Roller-Smith Co.
Sola Electric Co.
United Cinephone Corp.
United Transformer Corp.
Ward Leonard Elec. Co.

REGULATORS, AUTOMATIC, Water Pressure (See Regulators, Automatic, Pressure)

REGULATORS, AUTOMATIC, Welding, Gas
Bastian-Blessing Co.
Dockson Co.
Victor Equipment Co.

REGULATORS, MANUAL (Non-Automatic)
Allen-Bradley Co.
Bailey Meter Co.
Beck Bros.
Belfield Co.
Brown Inst. Co.
Cutler-Hammer, Inc.
Hanlon-Waters, Inc.
McAlear Mfg. Co.
National Airoil Burner
National Elec. Controller
Standard Elec. Prods.
Superior Electric Co.
Tagliabue Mfg. Co.
United Transformer Corp.
Ward Leonard Elec. Co.

RELAYS, Automatic
Allen-Bradley Co.
American Inst. Co.
American Automatic Elec.
Autocall Co.
Clare & Co.
Cutler-Hammer, Inc.
Eclipse Aviation
General Controls Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
Hagan Corp.
Industrial Eng. Corp.
Kellogg Switchboard
Mercoid Corp.
Monitor Controller Co.
Paragon Electric Co.
Penn Electric Switch
Perfex Corp.
Struthers-Dunn
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Capacity-Operated
Electronic Lab.
Luxtrol Co., Inc.

RELAYS, Circuit Control
Advance Electric Co.
Allen-Bradley Co.
American Automatic Elec.
American Inst. Co.
Autocall Co.
Automatic Switch Co.
Brown Inst. Co.
Clare & Co.
Electric Controller
Friez & Sons
General Elec. Co.

(Continued on next page)

FOR CONTROLLING: Line Voltage . . . Electric furnaces . . . Motors . . . Lights . . . Breakdown testers . . . Motor calibrators . . . Soldering irons . . . Welders

VARITRAN UNITS *PROVIDE* smooth, efficient, continuously variable output from 0-130 Volts (115 V. units). Available from 230 Watts to 5 KW.

Write for Bulletin 1B-1

UNITED TRANSFORMER CORP.

Write: INDUSTRIAL DIV. • 150 VARICK ST. • NEW YORK, N. Y.
EXPORT DIV: 100 VARICK ST., NEW YORK, N. Y., CABLES: "ARLAB"

TYPE 4357T controller with Type 4300 Wizard Pilot mounted integral with topwork. Note greater compactness of pilot assembly.

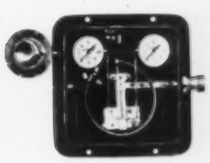
Use

FISHER WIZARD PILOT REGULATORS

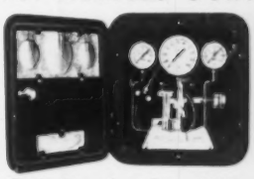
with throttling range adjustment

1. Throttling Range Adjustment —1% to 75% of Tube Range.
2. Vernier hand adjustment mechanism for pressure setting.
3. Larger and more sensitive Bourdon Tube.
4. Weather-proof integral gauge housings.
5. Gas-tight and weather-proof cases.
6. High pressure control connections and leads.
7. Easily changed from reverse to direct acting or vice-versa—without changing tube position.

Wizard Pilot Valves for Remote Control



Surface Mounting Type 4100S Pilot with cover removed.



Flush Mounting Type 4100F Pilot with cover open.

Pressure range from 2 to 10,000 lbs.

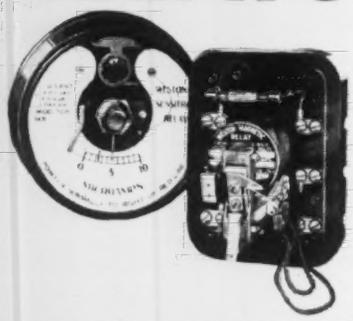
WRITE for FREE literature and prices

FISHER GOVERNOR COMPANY
1301 Fisher Bldg., Marshalltown, Iowa

For addresses, see pages 56-64

SENSITIVE and POWER

RELAYS



A complete line of sensitive relays and contact making indicators . . . including the Sensitrol Relay which provides positive control at energy levels as low as 1 millivolt or 2 microamperes, handling 5 watts at 110 volts on magnetic contacts. Also Time Delay Relays and Power Relays for operation from sensitive relay contacts. Bulletins available. Weston Electrical Instrument Corporation, 591 Frelinghuysen Ave., Newark, New Jersey.

WESTON *Instruments*

AGASTAT

The Name for TIME-DELAY RELAY

An instantaneous recycling unit giving a delay interval ranging from a fraction of a second to several minutes, for use in electrical apparatus and equipment.

Positive, snap-action contacts, normally open, normally closed, or both. Single or double-pole. Offers a diversity of timing effects by different circuit combinations. Simple field adjustment. Unaffected by dust, temperature, humidity or voltage fluctuations.

Write Today for Bulletin N-4.

AMERICAN GAS ACCUMULATOR CO.

Electrical Division

ELIZABETH • NEW JERSEY

RELAYS, Circuit Control (Cont'd)
Guardian Elec. Mfg. Co.
H-B Inst. Co., Inc.
Kellogg Switchboard
Leach Relay Co.
Lumenite Elec. Co.
Miller Co., Bertrand F.
Monitor Controller Co.
Paragon Electric Co.
Sigma Instruments, Inc.
Standard Elec. Prods.
Struthers-Dunn
United Cinephone Corp.
Ward Leonard Elec. Co.
Western Electro-Mech.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Continuous Current
Allen-Bradley Co.
American Automatic Elec.
American Inst. Co.
Autocall Co.
Clare & Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
H-B Inst. Co., Inc.
Kellogg Switchboard
Paragon Electric Co.
Struthers-Dunn
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Control
Allen-Bradley Co.
Advance Electric Co.
American Automatic Elec.
American Inst. Co.
Autocall Co.
Automatic Switch Co.
Betts & Betts
Brown Inst. Co.
Clare & Co.
Cutler-Hammer, Inc.
Electric Controller
Friez & Sons
General Controls Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
Hagan Corp.
H-B Inst. Co., Inc.
Industrial Eng. Corp.
Kellogg Switchboard
Miller Co., Bertrand F.
Monitor Controller Co.
Perfex Corp.
Precision Therm. & Inst.
Roller-Smith Co.
Standard Elect. Prods.
Struthers-Dunn
United Cinephone Corp.
Ward Leonard Elec. Co.
Western Electro-Mech.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Demand Totalizing
Autocall Co.
General Elec. Co.
Hagan Corp.
Therm-Electric Meters Co.
United Cinephone Corp.
Westinghouse Elec. & Mfg.

RELAYS, Electromagnetic
Advance Electric Co.
Allen-Bradley Co.
American Automatic Elec.
American Inst. Co.
Autocall Co.
Automatic Switch Co.
Bunnell & Co.
Eby, Inc.
Clare & Co.
Cutler-Hammer, Inc.
Friez & Sons
General Elec. Co.
G-M Labs.
Guardian Elec. Mfg. Co.
H-B Inst. Co.
Industrial Eng. Corp.
Kellogg Switchboard
Kurman Electric Co.

RELAY, Electromagnetic (Cont'd)
Leach Relay Co.
Miller Co., Bertrand F.
Monitor Controller Co.
Penn Electric Switch Co.
Perfex Corp.
Phila. Thermometer Co.
Precision Therm. & Inst.
Sigma Instruments, Inc.
Standard Elect. Prods.
Struthers-Dunn
United Cinephone Corp.
Ward Leonard Elec. Co.
Western Electro-Mech.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
White-Rodgers Electric
Zenith Electric Co.

RELAYS, Frequency
Autocall Co.
Clare & Co., C. P.
Cutler-Hammer, Inc.
Esterline-Angus Co.
Hickok Electrical Inst.
United Cinephone Corp.
Ward Leonard Electric Co.

RELAYS, Galvanometer
Autocall Co.
Eby, Inc., Hugh H.
G-M Laboratories, Inc.
Rubicon Co.
Tagliabue Mfg. Co., C. J.

RELAYS, Heavy Duty
Allen-Bradley Co.
American Automatic Elec.
American Inst. Co.
Autocall Co.
Automatic Switch Co.
Cutler-Hammer, Inc.
General Elec. Co.
H-B Inst. Co., Inc.
Miller Co., Bertrand F.
Monitor Controller Co.
Penn Electric Switch
Philadelphia Thermometer
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Zenith Electric Co.

RELAYS, Instrument Controlled
American Automatic Elec.
American Inst. Co.
Autocall Co.
Brown Inst. Co.
Clare & Co.
Cramer & Co., Inc.
Friez & Sons
General Elec. Co.
Guardian Elec. Mfg. Co.
H-B Inst. Co., Inc.
Kurman Electric Co.
Perfex Corp.
Phila. Thermometer Co.
Precision Therm. & Inst.
Roller-Smith Co.
Struthers-Dunn
Tagliabue Mfg. Co.
Triplett Electrical Inst.
United Cinephotic Corp.
Ward Leonard Elec. Co.
Weston Elec. Inst. Corp.

RELAYS, Light Sensitive (See Photoelectric below)

RELAYS, Magnetic (See Relays, Electro-Magnet)

RELAYS, Mercury
American Automatic Elec.
American Inst. Co.
Autocall Co.
Continental Elec. Co.
H-B Elec. Co., Inc.
H-B Inst. Co., Inc.
Loewenberg, F.
Precision Therm. & Inst.
Weston Elec. Inst. Corp.

RELAYS, Mercury Tube
American Inst. Co.
Autocall Co.
Brown Inst. Co.
Clare & Co.
General Control Co.

RELAYS, Mercury Tube (Cont'd)
G-M Labs.
Guardian Elec. Mfg. Co.
H-B Elec. Co., Inc.
H-B Inst. Co., Inc.
Loewenberg, F.
Phila. Thermometer Co.
Precision Therm. & Inst.
Steele, Erick F.
Struthers-Dunn
Ward Leonard Elec. Co.
Weston Elec. Inst. Corp.

RELAYS, Motor Driven Time Delay
Advance Electric Co.
American Inst. Co.
Betts & Betts
Cramer & Co., Inc.
Southern Electronics Labs
Struthers-Dunn
Friez & Sons
General Elec. Co.
Industrial Eng. Corp.
Monitor Controller Co.
Paragon Electric Co.
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Zenith Electric Co.

RELAYS, Movable Coil A.C.
Esterline-Angus Co.
Etna Elec. Works
General Elec. Co.
Weston Elec. Inst. Corp.

RELAYS, Overload
Allen-Bradley Co.
Autocall Co.
Bunnell & Co.
Cutler-Hammer, Inc.
Edison Electrical Controls
Electric Controller
General Elec. Co.
Guardian Elec. Mfg. Co.
Leach Relay Co.
Penn Electric Switch
Roller-Smith Co.
Standard Elect. Prods.
Struthers-Dunn
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.

RELAYS, Permanent Magnet Movable Coil
Bunnell & Co.
Esterline-Angus Co.
Etna Elec. Works
General Elec. Co.
Triplett Electrical Inst.
Weston Elec. Inst. Corp.

RELAYS, Photoelectric
Advance Electric Co.
American Inst. Co.
Eby, Inc.
Clare & Co.
Continental Elec. Co.
Cutler-Hammer, Inc.
Dickson Co.
Electronic Lab.
Electronic Prod. Co.
Ess Instrument Co.
Etna Elec. Works
General Controls Co.
General Elec. Co.
G-M Labs.
Leach Relay Co.
Lipman Engg. Co.
Lumenite Elec. Co.
Luxtrol Co., Inc.
Photobell Corp.
Photoswitch, Inc.
Precision Therm. & Inst.
Rehtron Corp.
Sigma Instruments, Inc.
Tagliabua Mfg. Co.
United Cinephone Corp.
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Polarized
American Automatic Elec.
Autocall Co.
Edison Electrical Controls
L. A. B. Corp.
Miller Co., Bertrand F.
Precision Therm. & Inst.
Struthers-Dunn
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Power
American Automatic Elec.
American Inst. Co.
Automatic Switch Co.
Esterline-Angus Co.
General Controls Co.
General Elec. Co.
Hagan Corp.
Struthers-Dunn
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Power Factor
Esterline-Angus Co.
L. A. B. Corp.
Westinghouse Elec. & Mfg.

RELAYS, Resistance, D.-c.
Advance Electric Co.
Autocall Co.
Automatic Electric Co.
Bunnell & Co.
Clare & Co., C. P.
Cutler-Hammer, Inc.
Dunn, Inc., Struthers
Leach Relay Co.
Standard Elect. Products

RELAYS, Stepping
Autocall Co.
Automatic Electric Co.
Dunn, Inc., Struthers
G-M Laboratories, Inc.
Roller-Smith Co.

RELAYS, Telephone Auxiliary Ringing
Advance Electric Co.
American Automatic Elec.
Autocall Co.
Clare & Co.
Kellogg Switchboard
Kurman Electric Co.
Leach Relay Co.
Standard Elect. Prods.
Struthers-Dunn
Western Electro-Mech.

RELAYS, Temperature
Autocall Co.
Clare & Co., C. P.
Dunn, Inc., Struthers
Edison Electrical Controls
Friez & Sons
Gleason-Avery, Inc.
G-M Laboratories, Inc.
Leach Relay Co.
Photobell Corp.
Spencer Thermostat Co.
Tagliabue Mfg. Co., C. J.
United Cinephone Corp.
Weston Electrical Inst.

RELAYS, Thermal Time Delay
Advance Electric Co.
Allen-Bradley Co.
American Automatic Elec.
Am. Gas Accumulator
American Inst. Co.
Autocall Co.
Automatic Temp. Control
Betts & Betts
Cramer & Co., Inc.
Cutler-Hammer, Inc.
Eagle Signal Corp.
Edison Electrical Controls
Electric Controller
Electronic Prod. Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
Industrial Eng. Corp.
Loewenberg, F.
Luxtrol Co., Inc.
Magnetic Gauge Co.
Paragon Electric Co.
Perfex Corp.
Photobell Corp.
Precision Therm. & Inst.
Preferred Utilities Mfg.
Spencer Thermostat Co.
Standard Elect. Prods.
Struthers-Dunn
Ward Leonard Elec. Co.
Weston Elec. Inst. Corp.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
White-Rodgers Electric
Zenith Electric Co.

RELAYS, Time Delay (See Relays, Thermal Time Delay)

RELAYS, Transformer (Low Voltage)
Allen-Bradley Co.
Eclipse Aviation
Friez & Sons
General Controls Co.
Gleason-Avery, Inc.
Guardian Elec. Mfg. Co.
H-B Inst. Co., Inc.
Industrial Eng. Corp.
Miller Co., Bertrand F.
Paragon Electric Co.
Penn Electric Switch
Perfex Corp.
Sigma Instruments, Inc.
Struthers-Dunn
Westinghouse Elec. & Mfg.
White-Rodgers Electric

RELAYS, Vacuum Contact
American Automatic Elec.
American Inst. Co.
Edison Electrical Controls

RELAYS, Vacuum Tube
American Inst. Co.
Continental Elec. Co.
Eby, Inc.
Electro-Medical Lab.
Electronic Prod. Co.
General Controls Co.
General Elec. Co.
G-M Labs.
L. A. B. Corp.
Lumenite Elec. Co.
Luxtrol Co., Inc.
Photobell Corp.
Precision Therm. & Inst.
RCA Manufacturing Co.
Sargent & Co.
Sigma Instruments
Standard Elect. Prods.
Struthers-Dunn
Tagliabue Mfg. Co.
United Cinephone Corp.

RELAYS, Voltage
Advance Electric Co.
Allen-Bradley Co.
Autocall Co.
Automatic Switch Co.
Clare & Co., C. P.
Cutler-Hammer, Inc.
Dunn, Inc., Struthers
Eby, Inc., Hugh H.
Esterline-Angus Co.
Ferranti Electric, Inc.
Hart Manufacturing Co.
Hathaway Inst. Co.
Leach Relay Co.
Photobell Corp.
Rubicon Instrument Co.
Roller-Smith Co.
Standard Elect. Products
Ward Leonard Electric Co.
Triplett Electrical Inst.
Weston Electrical Inst.

(Continued on page 385)

TIME DELAY RELAYS

- **TIME DELAY RELAYS**—Thermostatically controlled or motor-driven; for any voltage, any load, any application.
- **SINGLE OR MULTIPLE CONTACT CYCLE TIMERS**—Continuous, repeat or instantaneous reset types. Accurate timing adjustments of individual circuits and of complete cycle.

Write for Bulletins T-823 and T-831

BETTS & BETTS
CORPORATION
THERMOSTATIC FLASHERS — MOTOR DRIVEN CONTROLS — SPECIAL TIMERS
551 WEST 52nd. STREET, NEW YORK, U.S.A.

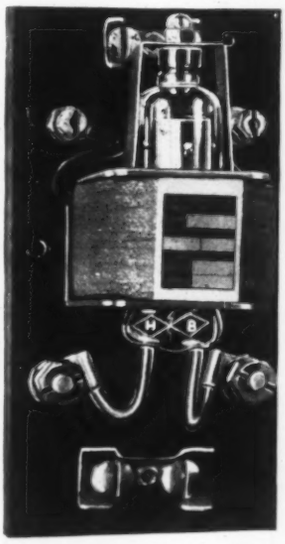
For addresses, see pages 56-64

RELAYS WITH PEP

The conciseness, characteristic of all Ward Leonard Relays, is due to sound engineering and careful workmanship. The very attributes that impart precision assure ruggedness and long life. Ward Leonard Relays are made in a wide variety of sizes, types and contact arrangements. Send for Bulletins describing relays of interest to you.

WARD LEONARD
ELECTRIC COMPANY
38 SOUTH STREET, MOUNT VERNON, N. Y.

ELECTRIC CONTROL DEVICES SINCE 1892



★ You will find that this new maintenance free H-B relay, featuring only one moving part, has many important advantages worth investigating.

Bulletin "A" fully describing its features will be sent immediately upon request. Write today for complete details.

THIS NEW A.C. RELAY HAS NO HUM OR CHATTER

. . . Quiet operation!

H-B ELECTRIC COMPANY INC

MANUFACTURERS OF H B ELECTRICAL DEVICES

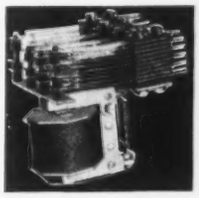
2501 N. BROAD STREET, PHILADELPHIA, PENNA.

RELAYS by Guardian

For AC or DC Operation

Relays, Solenoids and Stepping Switches illustrated below show just a few of numerous types of electrical control units engineered and manufactured by Guardian Electric. Built by *specialists* in COMPACT and highly sensitive electrical controls, Guardian units possess unusual responsiveness and precision of action. The entire line has been designed and developed for maximum control in minimum space. Guardian Electric controls can be obtained for operation on any specified voltage to 220 DC, 440 AC; on any current from .5 milliampere to 30 amperes; contact capacities to 1600 watts.

ALTERNATING CURRENT RELAYS



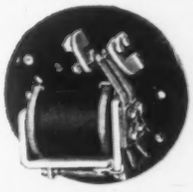
Series 30

Series 30 (left) Supplied in three types of mountings, voltage range .1 to 440 volts, contact capacity 42 contacts. Size 2¾x1½x2½.

Series 110 (right) Compact, economical, widely used unit. Four pole, double throw contact capacity. 220 volt limit. Size 2¾x2⅞x1 15/16".

Series 110

DIRECT CURRENT RELAYS



Series 5

Series 5 (left) Current draw as low as .009 watts—furnished completely enclosed—contact limit, double pole, double throw. Size 3¼x3¼x2".

Series 115 (right) Four pole, double throw contact capacity, rapid change over of contacts, full floating, permanently locked armature, economical of space and cost.

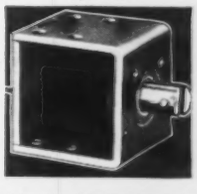
Series 115

S-T-E-P-P-I-N-G RELAYS

Versatile, advanced designs, simple in principle. New applications for these units are appearing constantly giving circuit control hitherto thought impossible. Rigidity of construction guarantees long life. Innumerable variations available.

Type-R Stepping Relay

Type No.2



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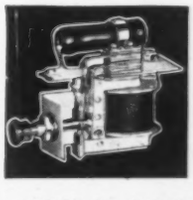

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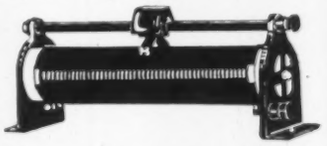

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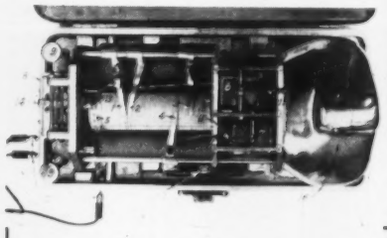

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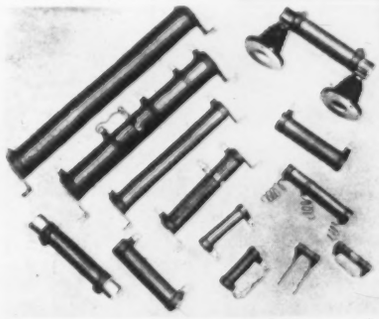

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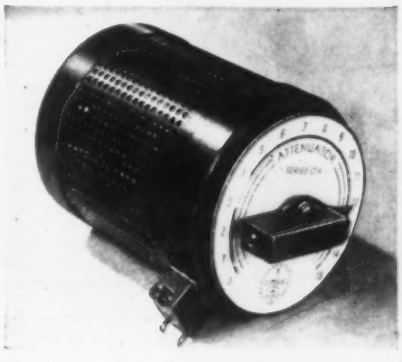

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SAMPLERS, Sewage
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Seederer-Kohlbusch
Thwing-Albert Instrument
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Kron Co.
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Richardson Scale Co.
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Toledo Scale Co.
Torsion Balance Co.
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Jacobs Bros. Co., Inc.
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Merrick Scale Mfg. Co.
Richardson Scale Co.
Toledo Scale Co.
Torsion Balance Co.
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SCALES, Classifying
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Kron Co.
Toledo Scale Co.
Triner Sales Co.

SCALES, Computing
Amthor Testing Inst.
Exact Weight Scale
International Bus. Mach.
Jacobs Bros., Inc.
Toledo Scale Co.
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Kron Co.

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Chatillon & Sons
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Streeter-Amet Co.
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Torsion Balance Co.
Triner Sales Co.
Troemner, Henry

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Fairbanks, Morse & Co.
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Dillon & Co.
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Kron Co.
Newark Scale Works
Richardson Scale Co.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triangle Package Mach.
Triner Sales Co.
Troemner, Henry

SCALES, Hopper
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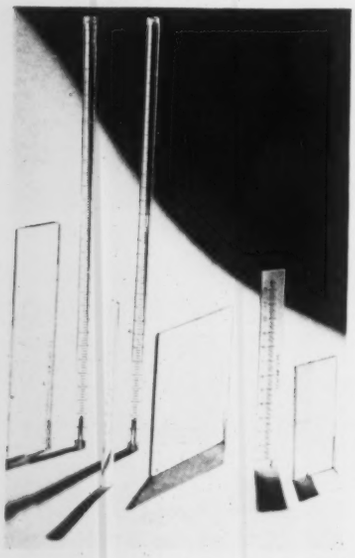
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
Jacobs Bros. Co.
Kron Co.



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SCALES, Laboratory
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Buffalo Scale Co.
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Jacobs Bros. Co.
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Seederer-Kohlbusch, Inc.
Toledo Scale Co.
Torsion Balance Co.
Troemner, Henry

SCALES, Larry Car
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Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Richardson Scale Co.
Streeter-Amet Co.
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SCALES, Loss of Weight
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Jacobs Bros. Co.
Kron Co.
Seederer-Kohlbusch, Inc.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.

SCALES, Measuring
Automatic Scale Co.
Howe Scale Co.
Kron Co.
Richardson Scale Co.
Triner Sales Co.

SCALES, Over & Under
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co.
Moisture Register Co.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.
Troemner, Henry

SCALES, Packaging
Automatic Scale Co.
Becker, Inc., Christian
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
Kron Co.
International Bus. Mach.
Jacobs Bros. Co.
Pneumatic Scale Corp.
Richardson Scale Co.
Toledo Scale Co.
Torsion Balance Co.
Triangle Package Mach.
Triner Sales Co.
Troemner, Henry

SCALES, Platform
Becker, Inc., Christian
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
Humboldt Mfg. Co.
International Bus. Mach.
Knowles Scale Works
Kron Co.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Portable
Black & Decker
Buffalo Scale Co.
Central Scientific Co.
Chatillon & Sons
Exact Weight Scale
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co.
Knowles Scale Works
Kron Co.
Richardson Scale Co.
Toledo Scale Co.
Triner Sales Co.

SCALES, Predetermined Weight
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co.
Merrick Scale Mfg. Co.
Richardson Scale Co.
Schaffer Poidometer Co.
Seederer-Kohlbusch, Inc.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Recording
Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Merrick Scale Mfg. Co.
Richardson Scale Co.
Streeter-Amet Co.
Toledo Scale Co.
Wallace & Tiernan

SCALES, Remote Indicating
Toledo Scale Co.

SCALES, Rolling Mill
Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Sacking (See Scales, Bag filling)

SCALES, Selecting
Exact Weight Scale
Toledo Scale Co.
United Cinephone Corp.

SCALES, Solder Test
Central Scientific Co.
Exact Weight Scale
Seederer-Kohlbusch, Inc.
Troemner, Henry

SCALES, Steel
Exact Weight Scale
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Lufkin Rule Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Testing
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale
Gump Co.
Howe Scale Co.
Humboldt Mfg. Co.
Jacobs Bros. Co.
Kron Co.
Newark Scale Works
Toledo Scale Co.
Torsion Balance Co.

SCALES, Textile
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Kron Co.
Saxl Instrument Co.
Seederer-Kohlbusch, Inc.
Streeter-Amet Co.
Suter, Alfred
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Track
Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Truck
Black & Becker
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Water Meter
Allender & Sons
Exact Weight Scale
Fairbanks, Morse & Co.
Jacobs Bros. Co.
Kron Co.
Toledo Scale Co.

SCALES, Yardage
Amthor Testing Inst.
Brown & Sharpe
Buffalo Scale Co.
Exact Weight Scale
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Kron Co.
Toledo Scale Co.

SCREENS, Solar Projecting
Fecker, J. W.

SCREENS, X-Ray Fluoroscopic
General Electric X-Ray
Kelley-Koett Mfg. Co.
Patterson Screen Co.
Westinghouse X-Ray Co.

SCREENS, X-Ray Intensifying (See Screens X-Ray Fluoroscopic)

SEED SIEVE SETS
Ballauf Mfg. Co.

SEGER CONES (See Cones, Pyrometric)

SEISMOGRAPHS
Akatos, Inc.
Alpha Instrument Co.
American Inst. Co.
Am. Telescope Labs.
Engineering Labs., Inc.
Geophysical Instrument
Heiland Research Corp.
Mico Instrument Co.
Ruska & Co., Inc.

SELF-OPERATING CONTROLLERS & REGULATORS AUTOMATIC
Am. Automatic Elec.
American Inst. Co.
Area Regulators, Inc.
Bailey Meter Co.
Betts & Betts

SELF-OPERATING CONTROLLERS & REGULATORS, AUTOMATIC (Cont'd)
Brown Inst. Co.
Cutler-Hammer, Inc.
D'Este Co.
Dickson Co.
Elec. Indicator Corp.
Hanlon-Waters, Inc.
Lammert & Mann Co.
Leeds & Northrup Co.
Leslie Co.
Mason-Neilan Regulator
Partlow Corp.
Penn Electric Switch Co.
Perfex Corp.
Ruggles-Klingemann
Scientific Inst. Co.
Taplabue Mfg. Co.
Taylor Inst. Cos.
United Transformer

SERVO-MOTORS, Electric Motor
Brown Inst. Co.
Ketcham Aviation
General Regulator Corp.
L. A. B. Corp.

SERVO-MOTORS, Electric Solepoid
Brown Inst. Co.
Eclipse Aviation
Hagan Corp.
Ruggles-Klingemann

SERVO-MOTORS, Hydraulic
Allis-Chalmers Mfg. Co.
Askania Regulator Co.
Eclipse Aviation
General Regulator Corp.
Hagan Corp.
Mason-Neilan Regulator
Ruggles-Klingemann

SERVO-MOTORS, Mechanical
Hagan Corp.

SERVO-MOTORS, Pneumatic
Askania Regulator Co.
Brown Inst. Co.
Hagan Corp.
Mason-Neilan Regulator

SEXTANTS
Alpha Instrument Co.
Keuffel & Esser Co.
Master Optical Co.
Negus, T. S. & J. D.
Pioneer Instrument Co.
Warren-Knight Co.
White Co., Inc.

SHIP LOGS
Elec. Tachometer Corp.
Kenyon Instrument Co.
Negus, T. S. & J. D.
Pitometer Log Corp.

SHUNT METERS (See Meters, Shunt)

SHUNTS
Burton-Rogers Co.
Columbia Elec. Mfg.
Esterline-Angus Co.
General Elec. Co.
Hickok Elec. Inst. Co.
International Resistance
Precision Resistor Co.
Radio City Products Co.
Rawson Electrical Inst.
Roller-Smith Co.
Rubicon Co.
Sensitive Research Inst.
Triplett Electrical Inst.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

SHUNTS, Standard
Cambridge Instrument Co.
Esterline-Angus Co.
General Electric Co.
Gray Instrument Co.
Hickok Electrical Inst.
Instrument Resistors, Inc.
International Resistance
Leeds & Northrup Co.
Roller-Smith Co.
Rubicon Co.
Triplett Elec. Inst. Co.
Weston Elec. Inst. Corp.

SIEVE SHAKERS
Braun Corp.

SIEVES, TESTING
American Inst. Co.
Central Scientific Co.
Dietert Co.
Fisher Scientific Co.
Humboldt Mfg. Co.
Precision Scientific Co.
Riehle Division
Scientific Inst. Co.
Weber Brothers Metal

SIGHT METERS
General Elec. Co.
G-M Labs.
Weston Elec. Inst. Corp.

SIGHTS, GUN, Telescopic
Clark & Sons
Fecker, J. W.
Kollmorgen Optical Co.
Perkin, Elmer & Moffitt
Zeiss, Inc., Carl

SIGNAL GENERATORS (See Generators, Signal)

SIGNALING DEVICES, Automatic
American Automatic Elec.
Autocall Co.
Betts & Betts
Ballard Co.
Cincinnati Time Rec.
Elec. Indicator Corp.
Foxboro Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
International Bus. Mach.
Leslie Co.
Production Instrument
Spence Engineering Co.
Thompson Clock Co.
United Cinephone Corp.

SIGNALING DEVICES, Traffic
Am. Gas Accumulator
Ballard Co.
Eagle Signal Corp.
Edison Electrical Controls
Sangamo Electric Co.

SILICA, VITREOUS
Thermal Syndicate, Ltd.

SINE BARS
Ford Motor Co.

SLIDE RULES (See Drawing Instruments)

SLIDING GAGES (See Gages, Sliding)

SLOW MOTION STUDY EQUIPMENT
Annis Co.
Boulin Instrument Corp.
Commercial Engg. Labs.
Warren Telechron Co.

SLUMP CONES (See Cones, Slump)

SMOKE DENSITY, Indicators & Recorders
Associated Research
Bailey Meter Co.
Boiler Room Equip.
Bristol Co.
Denver Fire Clay Co.
Dickson Co.
Electronic Lab.
Ess Instrument Co.
General Elec. Co.
General Television Corp.
Leeds & Northrup Co.
Lumenite Elec. Co.
Luxtrol Co., Inc.
McNeill Eng. Equip.
Photobell Corp.
Photoswitch, Inc.
Preferred Utilities Mfg.
Rehtron Corp.
United Cinephone Corp.
Weston Elec. Inst. Corp.

SOLAR PROJECTING SCREEN (See Screen, Solar Projecting)

SOUND INDICATORS & ANALYZERS (See Indicators, Sound & Analyzers, Sound)

SOUND LEVEL METERS
Ballantine Labs.
Clough-Brengle Co.
Daven Co.
Electrical Research Prod.
Electron.c Design Corp.
General Elec. Co.
General Radio Co.
Jones-Orme Co.
Precision Apparatus Corp.
Radio City Products Co.
Shalleross Mfg. Co.
Sound Apparatus Co.
Triplett Electrical Inst.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

SOUNDING LEADS
Ballauf Mfg. Co.
Bliss & Co.
Kenyon Instrument Co.
Moeller Instrument Co.
Negus, T. S. & J. D.

SOUNDING MACHINES
Ballauf Mfg. Co.
Bendix Marine Products
Kenyon Instrument Co.
Moeller Instrument Co.
Negus, T. S. & J. D.
Submarine Signal Co.

SOUNDING TUBES
Ballauf Mfg. Co.
Kimble Glass Co.
Moeller Instrument Co.
Negus, T. S. & J. D.

SPECIFIC GRAVITY Indicators & Recorders
American Meter Co.
Bailey Meter Co.
Binckley G. S.
Eimer & Amend
Foxboro Co.
Refinery Supply Co.
G M. Mfg. Co.
Richfel Co.
Schultheis Corp.
Scientific Inst. Co.
Taplabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.

SPECTRA DEMONSTRATORS
Baird Associates
Central Scientific Co.
Eastern Science Co.
Fuess, Inc.
Gaertner Scientific Corp.

SPECTRAL TUBES CONTAINING RARE GASES (See Spectrum Tubes)

SPECTROGRAPHS
Akatos, Inc.
Bausch & Lomb Optical
Bryden Co.
Gaertner Scientific Corp.
Spencer Lens Co.
Zeiss, Inc., Carl

SPECTROGRAPHS, Diffraction Grating
Applied Research Labs.
Baird Associates

SPECTROGRAPHS, Oscillating
Hayes Scientific App.

SPECTROGRAPHS, Vacuum
Central Scientific Co.
Dietert Co.
Fecker, J. W.
Fuess, Inc.

SPECTROGRAPHS, X-ray
Central Scientific Co.
Fuess, Inc.
Gaertner Scientific
General Electric X Ray
Hayes Scientific App.
Kelley-Koett Mfg.

SPECTROMETERS
Akatos, Inc.
American Askania Corp.
Bausch & Lomb Optical
Fuess, Inc.
Spencer Lens Co.

SPECTROMETER, Infra-Red
Gaertner Scientific Corp.

SPECTROMETERS X-RAY (See Spectographs, X-Ray)

SPECTRO-PHOTOMETERS (See Photometers, Spectro)

SPECTROSCOPES
Akatos, Inc.
American Askania Corp.
Fuess, Inc.
Gaertner Scientific Corp.
Leitz, Inc.
Spencer Lens Co.

SPECTROSCOPE, Quartz
Gaertner Scientific Corp.

SPECTROSCOPES, Stellar
Am. Telescope Labs.
Central Scientific Co.
Eastern Science Co.

SPECTROSCOPES, Stellar (Cont'd)
Fecker, J. W.
Mico Instrument Co.
Perkin, Elmer & Moffitt
Zeiss, Inc., Carl

SPECTRUM TUBES
Central Scientific Co.
Fuess, Inc.
Gaertner Scientific Corp.
General Physical Lab.

SPEED, Indicators
Amthor Testing Inst. Co.
Bailey Meter Co.
Biddle Co., Jas. G.
Boulin Instrument Corp.
Brown Inst. Co.
Commercial Engg. Labs.
Consol. Aircraft Hancock
Cramer & Co., Inc.
Electric Speed Ind. Co.
Elec. Tachometer Corp.
Esterline-Angus Co.
Foxboro Co.
Gaertner Scientific Corp.
General Elec. Co.
Hasler Tel. Co.
Hathaway Inst. Co.
Hickok Elec. Inst. Co.
Jaeger Watch Co.
Leeds & Northrup Co.
Martin Decker Corp.
McDonnell Odometer Co.
Misener Mfg. Co., Inc.
Moisture Register Co.
Precision Therm. & Inst.
Scherr Co., Inc.
Sound Apparatus Co.
Starrett Co.
Stucht & Co.
Veeder-Root, Inc.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Zernickow Co., O.

SPEED, Recorders (See Speed Indicators)

SPEED, Regulators (See Controllers, Automatic, Tachometric)

SPEED SYNCHRONIZING INDICATOR
Electric Speed Ind. Co.

SPEEDOMETERS
Boulin Instrument Corp.
Central Scientific Co.
Corbin Screw Corp.
Cramer & Co., Inc.
Elec. Tachometer Corp.
General Elec. Co.
Stewart-Warner Corp.
Westinghouse Elec. & Mfg.

SPHEROMETER
American Askania Corp.
Central Scientific Co.
Fish-Schurman Co.
Fuess, Inc.
Gaertner Scientific Corp.

SPHYGMOMANOMETERS
Cambridge Instr. Co.
Central Scientific Co.
Hellige, Inc.
Precision Therm. & Inst.
Taylor Inst. Cos.

SQUARES, Combination & Machinists'
Brown & Sharpe
Lufkin Rule Co.
Mico Instrument Co.
Starrett Co.
Union Tool Co.
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FILMGRAPH, the newly patented electro-mechanical sound-on-film recorder and reproducer. Recording may be made on 16 mm. film—with or without sprocket holes or emulsion. Cost of recording 12½c per hour for film, no other cost. Recordings permanent, played back instantly, no treatment or processing required. Portable. Simple to use.

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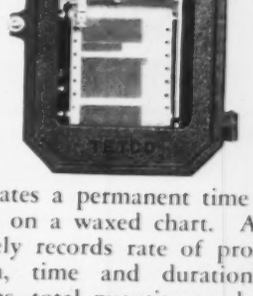

Creates a permanent time record on a waxed chart. Accurately records rate of production, time and duration of stops, total quantity produced.

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1358 Spring Garden St., Philadelphia, Pa.

For addresses, see pages 56-64

Standards... RESISTORS INDUCTORS CAPACITORS STANDARD CELLS

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STANDARD CELLS (See Cells, Standard)

STANDARDS, Capacitance
Cambridge Inst. Co.
General Radio Co.
Industrial Instruments
Leeds & Northrup Co.
Rubicon Co.
Solar Mfg. Corp.

STANDARDS, Color
Fish-Schurman Co.
Hellige, Inc.
Munsell Color Co.
Tagliabue Mfg. Co.

STANDARDS, E.m.f.
Cambridge Inst. Co.
Leeds & Northrup Co.
Rubicon Co.

STANDARDS, Frequency
Andrew, Victor J.
Ferris Inst. Corp.
General Radio Co.

STANDARDS, Inductance
Cambridge Inst. Co.
General Radio Co.
Leeds & Northrup Co.
Rubicon Co.

STANDARDS, Length
Gaertner Scientific Corp.
Gurley, W. & L. E.
Van Keuren Co.

STANDARDS, Mass
Gurley, W. & L. E.
Seeder-Kohlbusch, Inc.

STANDARDS, Potential
Leeds & Northrup Co.
Rubicon Co.

STANDARDS, Pressure
Green, Henry J.
Holz, Herman A.
Precision Therm. & Inst.

STANDARDS, Resistance
Beck Bros.
Cambridge Inst. Co.
General Radio Co.
International Resistance
Leeds & Northrup Co.
Rubicon Co.
Shallcross Mfg. Co.
Sicht & Co.
Ward Leonard Elec. Co.

STANDARDS, Sound Level
General Radio Co.

STANDARDS, Temperature
Green, Henry J.
Leeds & Northrup Co.
Moeller Instrument Co.
Precision Therm. & Inst.
Tagliabue Mfg. Co.

STANDARDS, Time
Gaertner Scientific Corp.
General Radio Co.
Standard Elec. Time Co.

STANDARDS, Volume
Gurley, W. & L. E.

STARTERS, MOTOR
Allen-Bradley Co.
Allis-Chalmers Mfg. Co.
Cutler-Hammer, Inc.
Eclipse Aviation
General Elec. Co.
Monitor Controller Co.
Penn Electric Switch Co.
Schaefer Bros. Co.
Ward Leonard Elec. Co.

STATION CONTROL EQUIPMENT
Allis-Chalmers Mfg. Co.
American Meter Co.
Area Regulators, Inc.
Elec. Indicator Corp.
General Elec. Co.

STEAM METERS (See Flow Meters, Steam)

STEEL TAPES (See Tapes, Steel)

STELLAR SPECTROSCOPES (See Spectroscopes, Stellar)

STEREOSCOPES, X-Ray
Bausch & Lomb Optical
Kelley-Koett Mfg. Co.
Westinghouse X-Ray Co.

STETHOSCOPES, ENGINEERS
Brush Development Co.

STIFFNESS TESTERS, PAPER (See Tester, Stiffness, Paper)

STILLS, AUTOMATIC WATER
Barnstead Still & Steril.
Central Scientific Co.
Fish-Schurman Co.
Specialty Glass Co.
Weber Bros. Metal Works

STIRRERS, LABORATORY, Variable Speed
Eastern Engg. Co.

STOP WATCHES (See Watches, Stop)

STRAIGHT EDGES
Brown & Sharpe
Dietzen Co.
Ford Motor Co.
Keuffel & Esser Co.
George Scherr Co.
Soltmann, Inc.
Speidel & Co.
Warren-Knight Co.
White Co., Inc.

STRAIGHTENING VANES
Robinson Orifice Fitting
Zink Co., John

STRAIN GAGES (See Gages, Strain)

STRAIN TESTERS, GLASS (See Testers, Strain (Glass))

STRAIN-TIME RECORDERS
Baldwin-Southwark Corp.
Cambridge Inst. Co.
Holz, Herman A.

STREAM GAGING INSTRUMENTS
Gurley, W. & L. E.
Keuffel & Esser Co.
Morey & Jones, Ltd.

STRESS INDICATORS
Ames Co., B. C.
Baldwin-Southwark Corp.
Cambridge Inst. Co.
Holz, Herman A.
Martin Decker Corp.
Riehle Div.

STRESS-STRAIN, Indicators
Ames Co., B. C.
Baldwin-Southwark Corp.
Holz, Herman A.

STRESS-STRAIN, Recorders
Baldwin-Southwark Corp.
Cambridge Inst. Co.
Holz, Herman A.
Olsen Testing Machine
Riehle Div.

STROBOSCOPES
Boulin Inst. Corp.
Commercial Engg. Labs.
L. A. B. Corp.
Welch Mfg. Co.
Westinghouse Elec. & Mfg.
Zeiss, Inc., Carl

SULPHUR BOMBS (See Bombs, Sulphur)

SULPHUR DIOXIDE, Indicators (See Gas Analyzers, Sulphur Dioxide) **Recorders** (See Gas Analyzers, Sulphur Dioxide)

SUNSHINE, Indicators & Recorders
Cambridge Inst. Co.
Esterline-Angus Co.
Friez & Sons
Fuess, Inc.
G. M. Mfg. Co., Inc.
Leeds & Northrup
Luxtrol Co., Inc.
Taylor Inst. Cos.
White Co., Inc.

SUPERVISORY CONTROL EQUIPMENT
American Automatic Elec.
Autocall Co.
Bristol Co.
Cramer & Co., Inc.
General Elec. Co.
Guardian Elec. Mfg. Co.
Leeds & Northrup Co.
Tagliabue Mfg. Co.

SURFACE GAGES (See Gages, Surface)

SURFACE PLATES, GLASS
Bausch & Lomb Optical
Clark & Sons
Eveker, J. W.
Fish-Schurman Co.
Zeiss, Inc., Carl

SURGE CREST AMMETERS (Ammeters, Surge-Crest)

SURGE, Indicators & Recorders
Elec. Indicator Corp.
General Elec. Co.
Esterline-Angus Co.

SURVEYING INSTRUMENTS
Alpha Instrument Co.
Beckman Co.
Berger & Sons
Bliss & Co.
Dietzen Co.
Gurley, W. & L. E.
Kenyon Instrument Co.
Kern Co.
Keuffel & Esser Co.
Kolesch & Company
Leupold, Volpel & Co.
Pittsburgh Inst. & Mach.
Post Co., Frederick
Speedometer Service Co.
Speidel & Co.
J. C. Ulmer Co.
United States Blue Print
Warren-Knight Co.
Weber Co.
White Co., Inc.
Zeiss, Inc., Carl

SURVEYING INSTRUMENTS, Aneroids
Am. Paulin System

SURVEYING INSTRUMENTS, Underground; for wells or bore holes
H. Cole Co.
Driftmeters, Inc.
Engineering Labs., Inc.
Geophysical Inst. Co.
Halliburton Oil Well
Ruska & Co.
Sperry-Sun Well Survey.
Warren-Knight Co.
David White Co., Inc.

SURVEYOR'S CHAINS (See Surveying Instruments)

SWITCHES, Air-operated
Detroit Lubricator Co.
Johnson Service Co.
Shallcross Mfg. Co.
Tagliabue Mfg. Co.

SWITCHES, Automatic Transfer
Allen-Bradley Co.
Anderson, A. & J. M.
Arrow-Hart & Hegeman
Autocall Co.
Automatic Switch Co.
Cramer & Co., Inc.
Cutler-Hammer, Inc.
General Elec. Co.
Hart Mfg. Co.
Monitor Controller Co.
Ward Leonard Elec. Co.
Zenith Electric Co.

SWITCHES, Instrument
Autocall Co.
Furnas Electric Co.
General Elec. Co.
Kellogg Switchboard
Rubicon Co.
Sensitive Research Inst.
Thwing-Albert Instrument
Triplett Elec. Inst. Co.
Weston Elec. Inst. Corp.

SWITCHES, Magnetic
Allen-Bradley Co.
Arrow-Hart & Hegeman
Autocall Co.
Automatic Switch Co.
Cutler-Hammer, Inc.
General Elec. Co.
Guardian Elec. Mfg. Co.
Hart Mfg. Co.
Industrial Engr. Corp.
Monitor Controller Co.
Penn Electric Switch
Perfex Corp.
Struthers-Dunn
Ward Leonard Elec. Co.
Zenith Electric Co.

SWITCHES, Mercury
Arrow-Hart & Hegeman
Continental Elec. Co.
Elec. Switch Corp.
General Elec. Co.
Gen. Elec. Lamp Dept.
Hart Mfg. Co.

SWITCHES, Pyrometer
J-B-T Insts. Inc.
Lewis Engg. Co.
Tagliabue Mfg. Co.
Thwing-Albert Inst. Co.
Weston Elec. Inst. Corp.
Woermann-Schuchhardt

SWITCHES, Relay
Allen-Bradley Co.
Andrew, Victor J.
Amer. Automatic Elec.
Arrow-Hart & Hegeman
Autocall Co.
Automatic Switch Co.
Cutler-Hammer, Inc.
Eclipse Aviation
Edison Electrical Controls
Friez & Sons
General Controls Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
Hart Mfg. Co.
Industrial Engr. Corp.
Kellogg Switchboard
Monitor Controller Co.
Penn Electric Switch
Perfex Corp.
Standard Elec. Prods.
Struthers-Dunn
Ward Leonard Elec. Co.
Zenith Electric Co.

SWITCHES, Rotary
Amer. Automatic Elec.
Arrow-Hart & Hegeman
Autocall Co.
Furnas Electric Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
Hart Mfg. Co.
Lewis Engg. Co.
Rubicon Co.
Sensitive Research Inst.
Shallcross Mfg. Co.

SWITCHES, Rotary (Cont'd)
Tagliabue Mfg. Co.
Thwing-Albert Inst. Co.
Triplett Electrical Inst.
Weston Elec. Inst. Corp.

SWITCHES, Snap
Arrow-Hart & Hegeman
Cutler-Hammer, Inc.
General Elec. Co.
Hart Mfg. Co.
McDonnell & Miller
Micro Switch Corp.
Perfex Corp.
Ward Leonard Elec. Co.

SWITCHES, Thermostatic
Advance Electric Co.
Allen-Bradley Co.
Burling Instrument Co.
Cook Electric Co.
Detroit Lubricator Co.
Dunn, Inc., Struthers
Edison Electrical Controls
Friez & Sons
Gleason-Avery, Inc.
Hart Manufacturing Co.
Penn Electric Switch Co.
Perfex Corp.
Shallcross Mfg. Co.
Spencer Thermostat Co.
Tagliabue Mfg. Co., C. J.
Ulanet Co., George
Ward Leonard Electric Co.

SWITCHES, Time
American Timer Corp.
Anderson, A. & J. M.
Autocall Co.
Automatic Elec. Mfg.
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WESTON *Instruments*

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Landis & Gyr, Inc.
Paragon Electric Co.
Penn Electric Switch
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Ward Leonard Elec. Co.
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SYNCHRONOUS MOTORS (See Motors, Synchronous)

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Electric Controller
General Elec. Co.
Hickok Elec. Inst. Co.
Kollsman Inst. Co.
Roller-Smith Co.
Westinghouse Elec. & Mfg.
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Coats Mach. Tool Co.
Cramer & Co., Inc.
Ohmer Register Co.
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TACHOMETERS, Centrifugal
Amthor Testing Inst. Co.
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Biddle Co., Jas. G.
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Coats Mach. Tool Co.
Consol. Ashcroft Hancock
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Scherr Co., Inc.
Stewart-Warner Corp.
Sticht & Co.
Veeder-Root, Inc.
Viking Instrument Co.
Zernickow Co., O.

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Amthor Testing Inst.
Biddle Co., Jas. G.
Boulin Instrument Corp.
Coats Mach. Tool Co.
Cramer & Co., Inc.
Elec. Tachometer Corp.
Elgin Nat'l Watch Co.
Hasler-Tel Co.
Jaeger Watch Co.
Pierce Watch Co.
Scherr Co., Inc.
Standard Elec. Time
Sticht & Co.
Stover-Lang Co.
Zernickow Co., O.

TACHOMETERS, Cross-pendulum
Amthor Testing Inst.
Biddle Co., Jas. G.
Coats Mach. Tool Co.
Sticht & Co.
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TACHOMETERS, Electric
Allen Elec. & Equip.
Bristol Co.
Brown Inst. Co.
Electric Speed Ind. Co.
Elec. Tachometer Corp.
Esterline-Angus Co.
Foxboro Co.
General Elec. Co.
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Hy-Et Electrical Prods.
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Lantz-Phelps Corp.
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Pioneer Instrument Co.
Pitometer Log Corp.
Potter Co.
Scherr Co., Inc.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Zip Abrasive Co.

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Jaeger Watch Co.
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Standard Elec. Time Co.
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Coats Mach. Tool Co.
Elec. Tachometer Corp.
Jones Motrola Sales
Sticht & Co.
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Boulin Instrument Corp.
Consol. Ashcroft Hancock
Corbin Screw Corp.
Elec. Tachometer Corp.
Foxboro Co.
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TACHOMETERS, Stroboscopic
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TACHOMETERS, Tilting-ring
Amthor Testing Inst. Co.
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TACHOMETERS, Vibrating Reed
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Keuffel & Esser Co.

TAPES, Steel
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Keuffel & Esser Co.
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Perkin, Elmer & Moffitt
Scherr Co., Inc.
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Gaertner Scientific Corp.
Kern Co.
Mico Instrument Co.
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Tinsley Labs.
Zeiss, Inc., Carl

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Clark & Sons
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Gen. Engg. & Model Wks.
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Zeiss, Inc., Carl

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Gaertner Scientific Corp.

TELESCOPES, Reflecting
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Clark & Sons
Fecker, J. W.
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Perkin, Elmer & Moffitt
Tinsley Labs.
Warner & Swasey Co.
Zeiss, Inc., Carl

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Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Kern Co.
Keuffel & Esser Co.
Perkin, Elmer & Moffitt
Tinsley Labs.

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Am. Telescope Labs.
Clark & Sons
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Kern Co.
Perkin, Elmer & Moffitt
Zeiss, Inc., Carl

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Suter, Alfred
Thwing-Albert
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Seedeker-Kohlhusch, Inc.

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Holz, Herman A.

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Ford Motor Co.
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Steel City Testing Lab.
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TEST WELLS
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TESTERS, Tachometer
Rieker Inst. Co.

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Saxl Inst. Co.
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Suter, Alfred
Taber Instrument Co.
Testing Machines, Inc.
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Emery Co.
Holz, Herman A.
Krouse Fatigue Machine
Olsen Testing Machine
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Suter, Alfred

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Hickok Elec. Inst. Co.
Hy-Et Electrical Prods.
Instrument Specialties Co.
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Precision Therm. & Inst.
Rascher & Betzold
Rieker Inst. Co.
Ruth Glass Division
Testrite Instrument Co.
Weston Elec. Inst. Corp.

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Holz, Herman A.
Olsen Testing Machine
RCA Manufacturing Co.
Suter, Alfred

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Green, Arthur B.
Williams Apparatus Co.

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Dorr-Patterson Engr.
Hayes Scientific App.
Olsen Testing Machine
Holz, Herman A.
Morehouse Machine Co.

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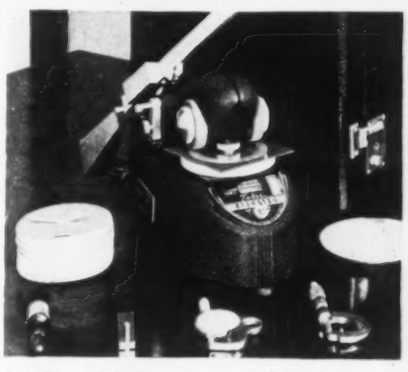

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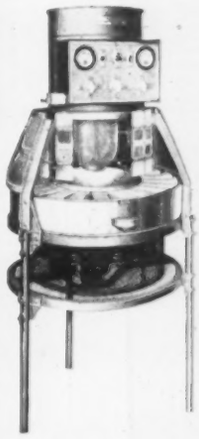

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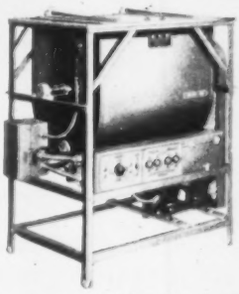

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Ferner Co.
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Pyro-Electro Inst., Co.
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Suter, Alfred
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Riehle Div.
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Scott Co., Henry L.
Suter, Alfred
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Amthor Testing Inst.
Atlas Electric Devices
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Leeds & Northrup Co.
Martin Decker Corp.
Olsen Testing Machine
Riehle Div.
Scott Co., Henry L.
Shallcross Mfg. Co.
Suter, Alfred

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Fisher Scientific Co.
Hayes Scientific App.
Holz, Herman A.
Humboldt Mfg. Co.
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Riehle Div.
Scientific Inst. Co.
Scott Co., Henry L.
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Suter, Alfred
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Riehle Div.

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Rascher & Betzold
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Industrial Insts. Inc.
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Eimer & Amend
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Lextrol Co., Inc.
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Dorr-Patterson Engr. Co.
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Holz, Herman A.
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Suter, Alfred
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Potter Co.
RCA Manufacturing Co.
Tobe Deutschmann Corp.
Triplett Electrical Inst.
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Olsen Testing Machine
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Suter, Alfred

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Baldwin-Southwark Corp.

TESTERS & TESTING MACHINES, Deflection, Light Wave
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Holz, Herman A.
Van Keuren Co.

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Instrument Specialties

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Olsen Testing Machine
Riehle Div.
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Scott Co., Henry L.
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Suter, Alfred

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Ferner Co.
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Ferner Co.
Hathaway Inst. Co.
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Holz, Herman A.
Krouse Fatigue Mach.
Olsen Testing Machine
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TESTERS & TESTING MACHINES, Flash Point, Abel's
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Ruehfel Co.

TESTERS & TESTING MACHINES Flash Point, Abel-Pensky's (See Abel's above)

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Boekel & Co.
Central Scientific Co.
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Central Scientific Co.
Humboldt Mfg. Co.
Precision Scientific Co.
Ruehfel Co.
Tagliabue Mfg. Co.

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Central Scientific Co.
Humboldt Mfg. Co.
Precision Scientific Co.
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Humboldt Mfg. Co.
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Tagliabue Mfg. Co.

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Fecker, J. W.
Fish-Schurman Co.
Gaertner Scientific Co.
Scherr Co., Inc.
Van Keuren Co.
Zeiss, Inc., Carl

TESTERS & TESTING MACHINES, Folding Endurance (Paper)
American Inst. Co.
Amthor Testing Inst. Co.
Olsen Testing Machine
Saxl Inst. Co.
Suter, Alfred
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Thwing-Albert Inst. Co.

TESTERS & TESTING MACHINES, Freeness
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Green, Arthur B.
Testing Machines, Inc.
Williams Apparatus Co.

TESTERS & TESTING MACHINES, Fuel
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Central Scientific Co.
Emerson Apparatus Co.
Fish-Schuman Co.
Fisher Scientific Co.
Parr Instrument Co.
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Gow-Mac Instrument
Refinery Supply Co.
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Morse Twist Drill
Scherr Co., Inc.

TESTERS & TESTING MACHINES, Glue
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Eimer & Amend
Fish-Schurman Co.
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Gump Co.
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Moisture Register Co.
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Tagliabue Mfg. Co.
Toledo Scale Co.
Troemner, Henry

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TESTERS & TESTING MACHINES, Grinding Wheel
Olsen Testing Machine

TESTERS & TESTING MACHINES, Ground Resistance
Allen Elec. & Equip.
Biddle Co., Jas. G.
Geophysical Inst. Co.
Industrial Insts. Inc.
Sticht & Co.

TESTERS & TESTING MACHINES, Gummed Tape
Amthor Testing Inst.
Scott Co., Henry L.
Thwing-Albert Inst. Co.

TESTERS & TESTING MACHINES, Hardness
Detroit Testing Mach.
Dietert Co.
Ferner Co.
Fisher Scientific Co.
Holz, Herman A.
Leitz, Inc.
Olsen Testing Machine
Pittsburgh Inst. & Mach.
Pyro-Electro Inst. Co.
Riehle Div.
Saxl Inst. Co.
Shore Instrument
Steel City Testing Lab.
Suter, Alfred
Testing Machines, Inc.
Wilson Mech. Inst. Co.
Zeiss, Inc., Carl

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Braebender Corp.

TESTERS & TESTING MACHINES, Hardness of Plastic Films
Holz, Herman A.
Munsell Color Co.
Saxl Inst. Co.
Steel City Testing Lab.
Taber Instrument Co.
Testing Machines, Inc.

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Cambridge Inst. Co.
Holz, Herman A.

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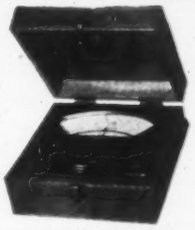

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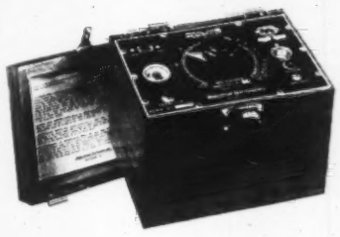

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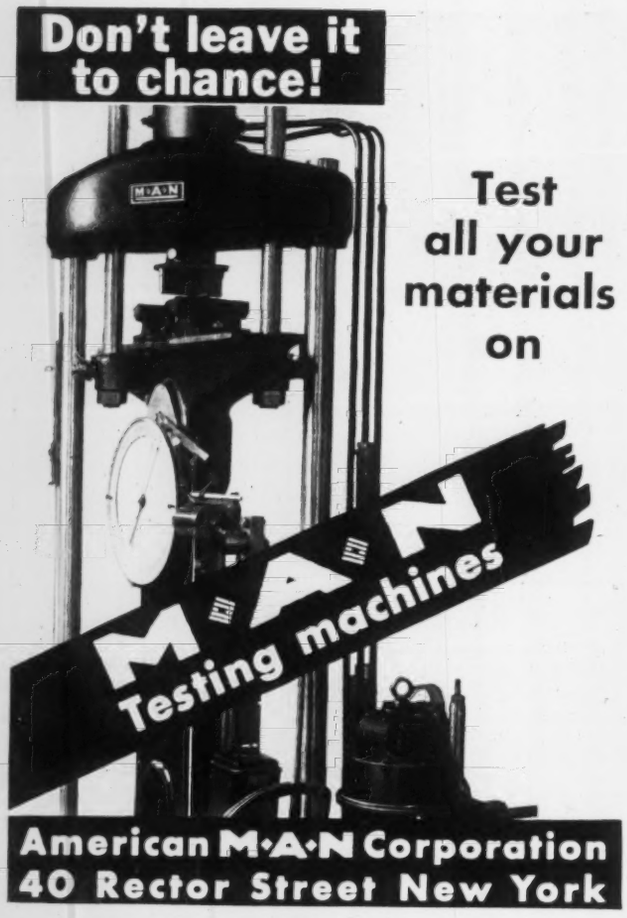

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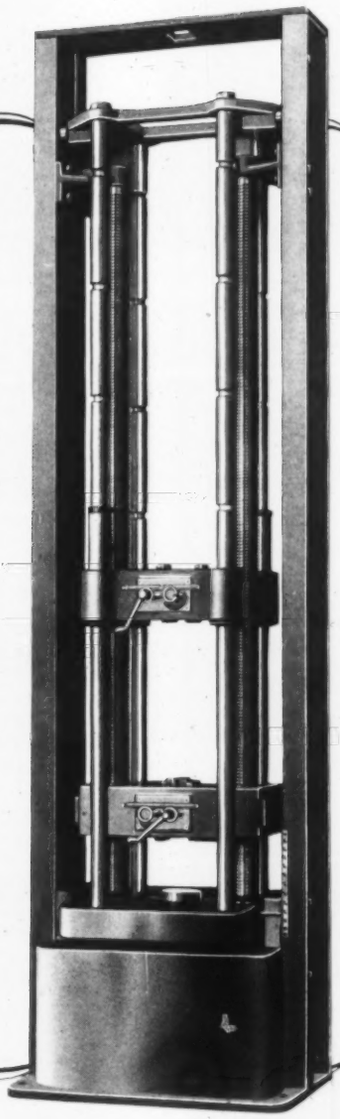

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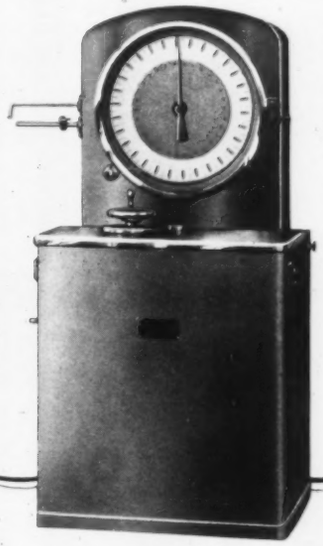

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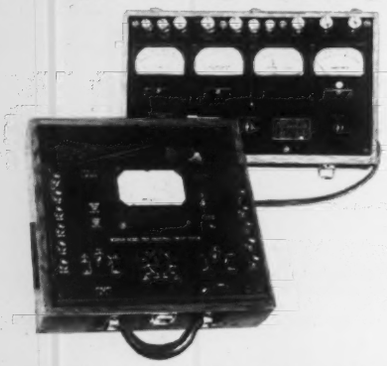

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Rubicon Co.
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Miller Co., B. F.
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(Continued on page 50)

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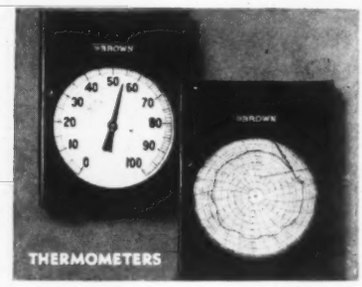

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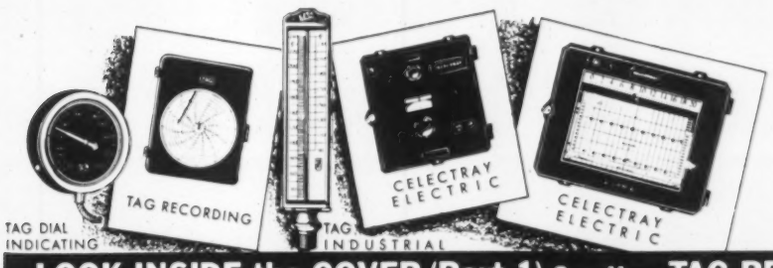

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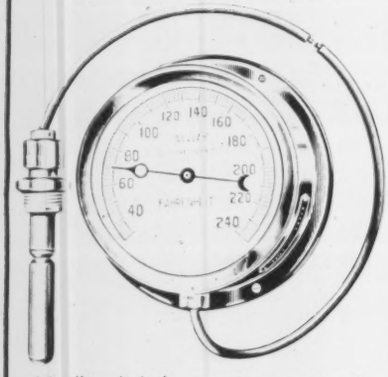

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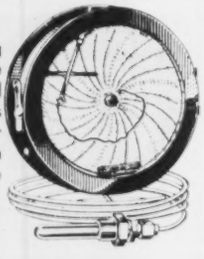

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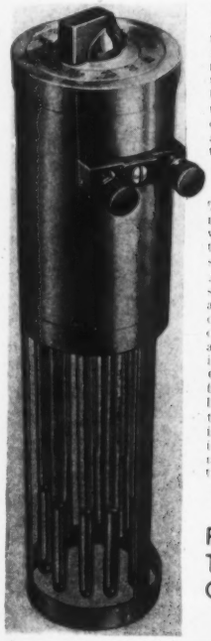

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Timers set the Standard for Enduring Dependability

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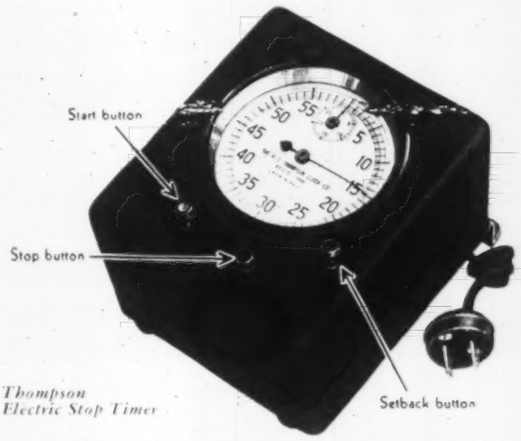

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Automatic TIMING ... by atc

Dependable Control Over Process Periods or Process Actions

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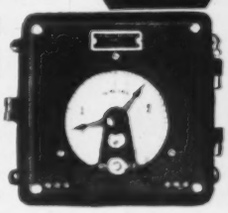
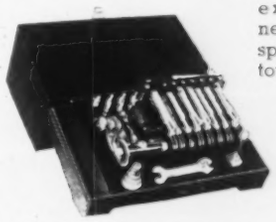


An ATC Dial Timer available in 40 standard adjustable types



An 8-circuit Cam Timer used to control eight steps of a process

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Taylor Instrument Companies
ROCHESTER, N.Y. TORONTO, CANADA

TIMERS

- **SINGLE OR MULTIPLE CONTACT CYCLE TIMERS**—Continuous repeat or instantaneous reset types. Accurate timing adjustments of individual circuits and of complete cycle.
- **TIME DELAY RELAYS**—Thermostat controlled or motor driven for any voltage, any load, any application.
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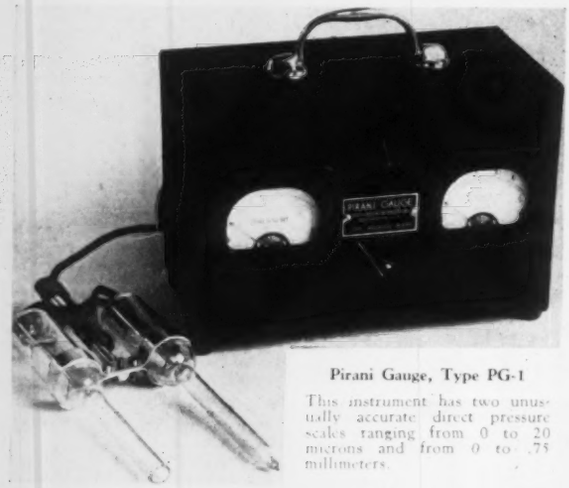
BETTS & BETTS CORPORATION
THERMOSTATIC FLASHERS — MOTOR DRIVEN CONTROLS — SPECIAL TIMERS
551 WEST 52nd. STREET, NEW YORK, U.S.A.

For addresses, see pages 56-64

VACUUM EQUIPMENT

PUMPS GAUGES FLUIDS



Pirani Gauge, Type PG-1

This instrument has two unusually accurate direct pressure scales ranging from 0 to 20 microns and from 0 to .75 millimeters.

YOU ARE INVITED to write for complete details of:

Oil Diffusion Pumps of high speed design capable of producing vacua of 10^{-7} to 10^{-8} mm. of mercury.

Ionization Gauges ideally suited to measure these high vacua.

Pirani Gauges primarily for testing and for measurements of fore pressure.

Pump Fluids of extremely low vapor pressure and of rugged stability.

Vacuum Greases of unexcelled purity both for rubber gaskets and stopcocks.

DISTILLATION PRODUCTS, INC.

ROCHESTER, N. Y.

Taylor

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Taylor Instrument Companies

ROCHESTER, N.Y. TORONTO, CANADA

Taylor

VALV-PRECISOR

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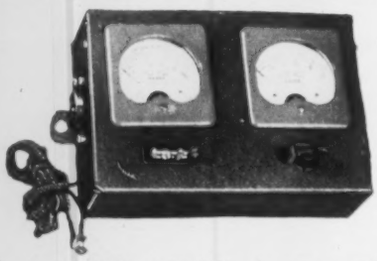
Taylor Instrument Companies

ROCHESTER, N.Y. TORONTO, CANADA



TRU-VAC VACUUM GAUGES

(PIRANI TYPE)

Shown at left is meter box of our model No. 6 gauge.

This gauge successfully used by many of America's foremost manufacturers.

Send for circular on our new low priced D.C. operated gauge.

CONTINENTAL ELECTRIC CO.

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Paragon Electric Co.
Powers Regulator Co.
Stromberg Electric Co.
Struthers-Dunn
Tagliabue Mfg. Co.
Taylor Inst. Cos.
United Cinephone Corp.
Warren Telechron Co.
West. Electro-Mechanical
Weston Elec. Inst. Corp.
Woermann-Schuchhardt
Zenith Electric Co.

TIMERS, AUTOMATIC, Spot Weld
Allen-Bradley Co.
Am. Gas Accumulator
Cramer & Co., Inc.
Cutler-Hammer, Inc.
Electric Controller
General Elec. Co.
United Cinephone Corp.

TITRATION APPARATUS, Electrometric
Cambridge Instrument Co.
Central Scientific Co.
Coleman Electric Co.
Fisher Scientific Co.
Leeds & Northrup Co.
National Technical Labs.
Rubicon Co.
Sargent & Co., E. H.
Thomas Co., Arthur H.
Welch Scientific Co.

TOOLMAKER'S FLATS
Fecker, J. W.
Pratt & Whitney
Van Keuren Co.
Zeiss, Inc., Carl

TOPOGRAPHIC INSTRUMENTS (See Surveying Instruments)

TORQUE GAGES (See Gages, Torque)

TORSIOGRAPH
Baldwin-Southwark Corp.
Commercial Engr. Labs.

TORSION METERS
Boulin Inst. Corp.
Cummings Mach. Works
Holz, Herman A.
Kurman Electric Co.
McNab of Bridgeport
Riehle Div.
Saxl Inst. Co.
Toledo Scale Co.

TOTALIZERS, Demand
American Meter Co.
General Elec. Co.
Therm-Electric Meters Co.
United Cinephone Corp.
Westinghouse Elec. & Mfg.

TOTALIZERS, Electric Energy
Autocall Co.
Esterline-Angus Co.
General Elec. Co.
Therm-Electric Meters Co.
Westinghouse Elec. & Mfg.

TOTALIZERS, Fluid Flow
American Meter Co.
Bailey Meter Co.
Brown Inst. Co.
Foxboro Co.
Builders Iron Foundry
Henszey Co.
Mason-Neilan Regulator
Republic Flow Meters
Tagliabue Mfg. Co.
Taylor Inst. Cos.

TOTALIZERS, Gas Flow
American Meter Co.

TOTALIZERS, Running Time
Cramer & Co., Inc.
Elec. Tachometer Corp.
Photoswitch, Inc.
Production Instrument
United Cinephone Corp.
Westinghouse Elec. & Mfg.

TRAFFIC SIGNALING DEVICES (See Signaling Devices, Traffic)

TRAMMELS, Steel Beam
Union Tool Co.

TRANSFORMERS, Adjustable
General Radio Co.
Superior Electric Co.

TRANSFORMERS, Constant Voltage
Sola Electric Co.

TRANSFORMERS, Experimenter's Variable Voltage
Dongan Electric Mfg.

TRANSFORMERS, Instrument
Allis-Chalmers Mfg.
Annis Co.
Columbia Elec. Mfg.
Davis & Co.
Dongan Electric Mfg.
Elec. Facilities, Inc.
Esterline-Angus Co.
Friez & Sons
General Elec. Co.
Hickok Elec. Inst. Co.
Industrial Engr. Corp.
Lipman Engg. Co.
Miller Co., Bertrand F.
Roller-Smith Co.
Sangamo Electric Co.
Thordarson Elec. Co.
United Transformer Corp.
West. Electro-Mechanical
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

TRANSFORMERS, Insulation Testing
Dongan Electric Mfg.

TRANSFORMERS, Laboratory
American Transformer
Central Scientific Co.
Clough-Brengle Co.
Daven Co.
Davis & Co.
Dongan Electric Mfg.
Eastern Specialty Co.
Elec. Facilities, Inc.
General Elec. Co.
General Radio Co.
Halldorson Co.
Standard Elec. Prods.
Miller Co., Bertrand F.
Raytheon Mfg. Co.
Sola Electric Co.
Superior Electric Co.
Thordarson Elec. Co.
United Transformer Corp.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

TRANSFORMERS, Phasing
Davis & Co.
Dongan Electric Mfg.
Eastern Specialty Co.
Stu Co.
Thordarson Mfg. Co.
United Transformer Corp.
Westinghouse Elec. & Mfg.

TRANSFORMERS, Power
Ferranti Electric

TRANSFORMERS, Split Core
Davis & Co.
Elec. Facilities, Inc.
General Elec. Co.
H-D Elec. Co.
Industrial Eng. Corp.
Roller-Smith Co.
Rubicon Co.
Sangamo Electric Co.
Thordarson Elec. Co.
United Transformer Corp.
Western Electro-Mech.
Westinghouse Elec. & Mfg.

TRANSFORMERS, Variable Voltage Testing
American Transformer
Dongan Electric Mfg.
Superior Electric Co.

TRANSITS, Astronomical
American Askania Corp.

TRANSITS, Engineer's (See Surveying Instruments)

TRANSITS, Pocket
Ainsworth & Sons
Keuffel & Esser Co.
Mico Instrument Co.
Speidel & Co.
Warren-Knight Co.
White Co., Inc.

TRUCK MILEAGE RECORDERS (See Meters, Mileage)

TRUCK-TIME RECORDERS
Cramer & Co., Inc.
Durant Mfg. Co.
Ohmer Register Co.
Service Recorder Co.

TRUCK, TIME & MILEAGE RECORDERS
Cramer & Co., Inc.
Ohmer Register Co.
Sangamo Electric Co.

TUBES (See also Gas & Vapor Discharge Tubes)

TUBES, Cathode Ray (See Cathode Ray Tubes)

TUBES, Nessler (See Nessler Tubes)

TUBES, Oil Centrifuge (See Oil Centrifuge Tubes)

TUBES, Photoelectric
Continental Electric Co.
General Electric Co.
General Scientific Corp.
Photobell Corp.
United Cinephone Corp.
Vacutron, Inc.

TUBES, Pitot (See Flowmeters, Pitot Tube)

TUBES, Polariscope
Akatos, Inc.
American Inst. Co.
Bausch & Lomb Optical
Central Scientific Co.
Eimer & Amend
Fecker, J. W.
Gaertner Scientific Corp.
Hellige, Inc.
Precision Scientific Co.
Sargent & Co.
Woermann-Schuchhardt

TUBES, Precision Bore (See Precision Bore Glass Tubing)

TUBES, Pyrometer
Bristol Co.
Fish-Schurman Corp.
Hoskins Mfg. Co.
Illinois Testing Labs.
Leeds & Northrup Co.
Norton Co.
Taylor Instrument Cos.

TUBES, Spectrum (See Spectrum Tubes)

TUBES, Ultra-Violet Light (See Ultra-Violet Light Sources)

TUBES, Vacuum
Arcturus Radio Tube Co.
Central Scientific Co.
General Elec. Co.
General Scientific Corp.
General Television Corp.
Raytheon Mfg. Co.
RCA Manufacturing Co.
Vacutron, Inc.
Wheelco Inst. Co.

TUBES, Venturi (See Flowmeters, Venturi)

TUBES, X-Ray
American Inst. Co.
Baird Associates
Corning Glass Works
General Electric X-Ray
Kelley-Koett Mfg.
Westinghouse X-Ray Co.
Wyland, George

TUNING FORKS, Electrically Driven (See Forks, Tuning)

TURBIDIMETER
Akatos, Inc.
American Inst. Co.
Cargille, R. P.
Central Scientific Co.
Eimer & Amend
Ess Instrument Co.
Fisher Scientific Co.
Hellige, Inc.
Kimble Glass Co.
Klett Mfg. Co.
Luxtrol Co., Inc.
Parr Instrument Co.
Pfaltz & Bauer, Inc.
Photoswitch, Inc.
Precision Scientific Co.
Rawson Electrical Inst.
Rubicon Co.
Sensitive Research Inst.
Zeiss, Inc., Carl

TURN & BANK INDICATORS
Kollsman Inst. Co.

TURN INDICATOR TESTERS (See Testers, Turn Indicator)

TWIST COUNTERS (See Counters, Twist)

ULTRA-VIOLET INDICATORS & RECORDERS
Gen. Elec. Lamp Dept.
Hanovia Chem. & Mfg.

U-TUBE MANOMETERS (See Manometers)

ULTRA-VIOLET LIGHT SOURCES (See Light Sources)

For addresses, see pages 56-64

VACUUM GAGES, Hot-Wire
Baird Associates
Continental Elec. Co.
Fuess, Inc.
General Elec. Co.

VACUUM GAGES, Ionization
General Elec. Co.
General Television Corp.

VACUUM GAGES, Liquid-column
American Meter Co.
Bacharach Industrial Inst.
Defender Automatic Reg.
Dubrovin, John
Gas Appliance Specialties
Lantz-Phelps Corp.
Meriam Co.
Precision Term. & Inst.
Scientific Glass Apparatus
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Uehling Instrument Co.

VACUUM GAGES, McLeod
Ace Glass, Inc.
Central Scientific Co.
Eimer & Amend
General Elec. Co.
General Physical Lab.
Macalaster Bicknell Co.
Scientific Glass Apparatus
Welch Mfg. Co.

VACUUM GAGES, Pirani Type
Distillation Products

VACUUM, Indicators
Allen Elec. & Equip.
American Meter Co.
Ashton Valve Co.
Bailey Meter Co.
Baird Associates
Bristol Co.
Brown Inst. Co.
Central Scientific Co.
Consol. Ashcroft Hancock
Eimer & Amend
Foxboro Co.
General Elec. Co.
Kollsman Inst. Co.
Marsh Corp.
Mason-Neilan Regulator
Moeller Instrument Co.
Potter Co.
Precision Therm. & Inst.
Rawson Electrical Inst.
Republic Flow Meters
Rochester Mfg. Co.
Scientific Glass Apparatus
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Uehling Instrument Co.

VACUUM, HIGH (below 1 mm) Controllers, Indicators & Recorders
Baird Associates
Continental Elec. Co.
Eimer & Amend
Electronic Prod. Co.
General Elec. Co.
General Physical Lab.
Welch Mfg. Co.

VACUUM RECORDERS
American Meter Co.
Ashton Valve Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Consol. Ashcroft Hancock
Dickson Co.
Esterline-Angus Co.
Foxboro Co.
Marsh Corp.
Mason-Neilan Regulator
Republic Flow Meters
Scientific Instrument Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Uehling Instrument Co.

VACUUM SPECTROGRAPHS (See Spectrographs, Vacuum)

VACUUM TUBES (See Tubes, Vacuum)

VACUUM TUBE BRIDGES (See Bridges, Vacuum Tube)

VACUUM TUBE RELAYS (See Relays, Vacuum Tube)

VACUUM TUBE VOLTMETERS (See Voltmeters, Vacuum Tube)

VALVE BOX FINDER (See Finder, Valve Box)

VALVE-OPERATING DEVICES, Electric Motor
Baldwin-Southwark Corp.
Barber-Coleman Co.
Beck Co.
Brown Inst. Co.
Cramer & Co., Inc.
Cutler-Hammer, Inc.
Dickson Co.
Foxboro Co.
General Controls Co.
Hays Corp.
Illinois Eng. Co.
Jenkins Bros.
McAlear Mfg. Co.
Ruggles-Klingemann
Tagliabue Mfg. Co.

VALVE OPERATING DEVICES, Electric Solenoid (See Valves, Solenoid)

VALVE OPERATING DEVICES, Hydraulic (See Valves, Hydraulically Operated)

VALVE-OPERATING DEVICES, Pneumatic (See Valves, Diaphragm)

VALVE POSITION INDICATORS
Autocall Co.
Automatic Temp. Control
Bailey Meter Co.
Beck Co.
Bendix Marine Products
Builders Iron Foundry
Consol. Ashcroft Hancock
Elec. Indicator Corp.
Elec. Tachometer Corp.
Foxboro Co.
General Regulator Corp.
Hanlon-Waters, Inc.
Northern Equip. Co.
Tagliabue Mfg Co.
Taylor Inst. Cos.
Tefft-Jackson, Inc.

VALVES, Automatic Shut-off
Automatic Switch Co.
Automatic Valve Control
Bellfield Co.
Brown Inst Co.
Davis Reg. Co.
Fisher Governor Co.
Foster Engg. Co.
Frick Co.
Friez & Sons
General Controls Co.
General Sales & Prod.
Hagan Corp.
Hanlon-Waters, Inc.
Jefguson Gage Co.
Kiely & Mueller
McAlear Mfg. Co.
McDonnell & Miller
Partlow Corp.
Ruggles-Klingemann
Payne Furnace & Supply
Schade Valve Mfg. Co.
Tagliabue Mfg. Co.
Wilgus Mfg. Co.

VALVES, Automatic Solenoid (See Valves, Solenoid)

VALVES, Balanced
American Meter Co.
Atlas Valve Co.
Bailey Meter Co.
Bellfield Co.
Boylston Co.
Bristol Co.
Cash Co.
Cochrane Corp.
Connelly Iron Sponge
Davis Reg. Co.
Defender Automatic Reg.
D'Este Co.
Fisher Governor Co.
Ford Reg. Valve Co.
Foster Engg. Co.
General Controls Co.
Hagan Corp.
Hanlon-Waters, Inc.
Illinois Eng. Co.
Industrial Instrument
Jenkins Bros.
Kiely & Mueller
Klipfel Mfg. Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Natural Gas Equipment
Northern Equip. Co.
Powers Regulator Co.
Republic Flow Meters
Reynolds Gas Regulator
Ruggles Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Watts Regulator Co.
Wilgus Manufacturing

VALVES, Constant Pressure
Bailey Meter Co.
Bellfield Co.
Cash Co.
Connelly Iron Sponge
Davis Reg. Co.
D'Este Co.
Dockson Co.
Fisher Governor Co.
Foster Engg. Co.
Hagan Corp.
Hanlon-Waters, Inc.
Hoke, Inc.
Jenkins Bros.
Klipfel Mfg. Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Powers Regulator Co.
Refrigerating Spec. Co.
Reynolds Gas Regulator
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Vaughn-G E Witt Co.
Wilgus Manufacturing

VALVES, Diaphragm
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Bastian-Blessing Co.
Bellfield Co.
Boylston Co.
Bristol Co.
Brown Inst. Co.
Cash Co.
Connelly Iron Sponge
Consol. Ashcroft Hancock
Davis Reg. Co.
Defender Automatic Reg.
D'Este Co.
Foster Engg. Co.
Foxboro Co.
General Controls Co.
Hagan Corp.
Hanlon-Waters, Inc.
Illinois Eng. Co.
Industrial Instrument
Johnson Service Co.
Kiely & Mueller
Klipfel Mfg. Co.
Leslie Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
McCorkle Co.
National Airoil Burner
Natural Gas Equipment
Partlow Corp.
Payne Furnace & Supply
Powers Regulator Co.
Refrigerating Spec. Co.
Republic Flow Meters Co.
Reynolds Gas Regulator
Ruggles-Klingemann
Schade Valve Mfg. Co.
Scientific Instrument Co.
Spence Engineering Co.
Spencer Thermostat Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Vaughn-G E Witt Co.
White-Rodgers Electric
Wilgus Manufacturing

VALVES, Electrically Operated
Atkins & Co.
Atlas Valve Co.
Automatic Products Co.
Automatic Switch Co.
Automatic Temp. Control
Bristol Co.
Brown Inst. Co.
Cochrane Corp.
Cutler-Hammer, Inc.
Davis Reg. Co.
Defender Automatic Reg.
Detroit Lubricator Co.
Electric Valve Mfg.
Electrimatic Corp.
Foster Engg. Co.
Foxboro Co.
Frick Co.
Friez & Sons
General Controls Co.

VALVES, Electrically Operated (Cont'd)
Hannifin Mfg. Co.
Hunt & Son
Illinois Eng. Co.
Jenkins Bros.
Kiely & Mueller
Klipfel Mfg. Co.
Leslie Co.
Magnatrol Valve Corp.
Mason-Neilan Regulator
McAlear Mfg. Co.
McCorkle Co.
McDonnell & Miller
Northern Equipment Co.
Payne Furnace & Supply
Penn Electric Switch
Perfex Corp.
Refrigerating Spec. Co.
Ross Operating Valve
Ruggles-Klingemann
Schade Valve Mfg. Co.
Shallcross Mfg. Co.
Spence Engineering Co.
Supreme Elec. Prods.
Tagliabue Mfg. Co.
White-Rodgers Elec. Co.

VALVES, Hydraulically Operated
Area Regulators, Inc.
Askania Regulator
Atlas Valve Co.
A to T mp Control
Bailey Meter
Barber-Coleman Co.
Cash Co.
Controls, Inc.
Defender Automatic Reg.
Foster Engg. Co.
Gen. Electric Co.
Hagan Corp.
Hays Corp.
Jenkins Bros.
Kiely & Mueller
Leslie Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Powers Regulator Co.
Republic Flow Meter
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Sterling Eng. Co.

VALVES, Lubricated Plug
Merco Nordstrom Valve

VALVES, Motor Operated (See Valves, Diaphragm; Valves, Electrically-operated; Valves, Hydraulically - operated; Valves, Solenoid)

VALVES, Pressure Relief, Reducing, etc.
Abercrombie Pump Co.
American Meter Co.
Ashton Valve Co.
Atlas Valve Co.
Bailey Meter Co.
Bastian-Blessing Co.
Boylston Co.
Brown Instr. Co.
Cash Co.
Cochrane Corp.
Connelly Iron Sponge
Consol. Ashcroft Hancock
Crosby Steam Gage Co.
Davis Reg. Co.
D'Este Co.
Detroit Lubricator Co.
Fisher Governor Co.
Foster Engg. Co.
Foxboro Co.
Fulton Sylphon Co.
Hagan Corp.
Hanlon-Waters, Inc.
Hoke, Inc.
Illinois Eng. Co.
Industrial Instrument
Kenyon Instrument Co.
Kiely & Mueller
Klipfel Mfg. Co.
Lammert & Mann Co.
Leslie Co.
Marsh Corp., Jas. P.
Mason-Neilan Regulator
McAlear Mfg. Co.
Natural Gas Equipment
Powers Regulator Co.
Republic Flow Meters
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Spencer Thermostat Co.
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Instr. Cos.
Vapor Recovery Systems
Vaughn-G. E. Witt Co.
Victor Equipment Co.
Watts Regulator Co.
Wilgus Manufacturing

VALVES, Proportional Air Gas
American Meter Co.
Bristol Co.
Brown Inst. Co.
Cash Co.
Connelly Iron Sponge
Fisher Governor Co.
Hagan Corp.
Hanlon-Waters, Inc.
Lammert & Mann Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Tagliabus Mfg. Co.

VALVES, Regulating
Am. Gas Furnace Co.
American Meter Co.
Area Regulators, Inc.
Atlas Valve Co.
Automatic Valve Control

VALVES, Regulating (Cont'd)
Bailey Meter Co.
Bastian-Blessing Co.
Bellfield Co.
Boylston Co.
Boilerr Room Equipment
Bristol Co.
Brown Inst. Co.
Cash Co.
Cochrane Corp.
Connelly Iron Sponge
Consol. Ashcroft Hancock
Davis Reg. Co.
Defender Automatic Reg.
D'Este Co.
Dockson Co.
Electromatic Corp.
Fisher Governor Co.
Ford Reg. Valve Co.
Foster Engg. Co.
Foxboro Co.
Friez & Sons
Fulton Sylphon Co.
General Controls Co.
Hagan Corp.
Hanlon-Waters, Inc.
Hannifin Mfg. Co.
Illinois Eng. Co.
Jenkins Bros.
Kiely & Mueller
Klipfel Mfg. Co.
Lammert & Mann Co.
Leslie Co.
Linde Air Products Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
National Airoil Burner
Natural Gas Equipment
Northern Equipment Co.
Parlow Corp.
Powers Regulator Co.
Republic Flow Meters
Robertshaw Thermostat
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Vaughn-G E Witt
Victor Equipment Co.
Wilgus Manufacturing

VALVES, Safety Fuel Shut-off
American Meter Co.
Askania Regulator Co.
Atlas Valve Co.
Automatic Products Co.
Automatic Switch Co.
Bristol Co.
Brown Inst. Co.
Cash Co.
Davis Reg. Co.
D'Este Co.
Detroit Lubricator Co.
Eclipse Fuel Engg. Co.

VALVES, Safety Fuel Shut-off (Cont'd)
Friez & Sons
Fulton Sylphon Co.
General Combustion Corp.
General Controls Co.
Hagan Corp.
Hanlon-Waters, Inc.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Milwaukee Gas Specialty
National Airoil Burner
Natural Gas Equipment
Partlow Corp.
Payne Furnace & Supply
Penn Electric Switch
Preferred Utilities Mfg.
Ruggles-Klingemann
Spence Engineering Co.
Spencer Thermostat Co.
Tagliabue Mfg. Co.
Viking Instrument Co.
Wilgus Manufacturing

VALVES, Solenoid
Atkins & Co.
Atlas Valve Co.
Automatic Products Co.
Automatic Switch Co.
Barber-Coleman Co.
Brown Inst. Co.
Cutler-Hammer, Inc.
Davis Reg. Co.
Detroit Lubricator Co.
Electric Valve Mfg. Co.
Electrimatic Corp.
Foxboro Co.
Frick Co.
Friez & Sons
General Controls Co.
Gen. Elec. Co.
General Sales & Prod.
Guardian Elec. Mfg.
Hagan Corp.
Hannifin Mfg. Co.
Hays Corp.
Hook & Ackerman
Hunt & Co.
Leslie Co.
Magnatrol Valve Corp.
McDonnell & Miller
Northern Equip. Co.
Partlow Corp.
Penn Electric Switch
Perfex Corp.
Refrigerating Spec. Co.
Ross Operating Valve
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Sterling Eng. Co.
Supreme Elec. Prods.
Tagliabue Mfg. Co.

VALVES, Thermostat (See Thermostats)

Taylor

MOTOSTEEL EVENACTION
Diaphragm Valve

Write for complete information and catalogs.

Taylor Instrument Companies
ROCHESTER, N.Y. **TORONTO, CANADA**

Foxboro valves for air-operated controllers should be specified with Foxboro Controllers — because the characteristic of the Valve should fit the characteristic of the Instrument. The Valve is a vital part of a Control installation. The Foxboro line is engineered to assure the best results.

For complete information write for Bulletin No. 214-1. The Foxboro Company, 46 Neponset Avenue, Foxboro, Mass., U.S.A. Branch offices in 25 Principal Cities.

For addresses, see pages 56-64

Now!

Test Viscosity

direct in process container

with NEW **BROOKFIELD SYNCHRO-LECTRIC VISCOSIMETER**

A Plant and Laboratory Instrument of Proven Value

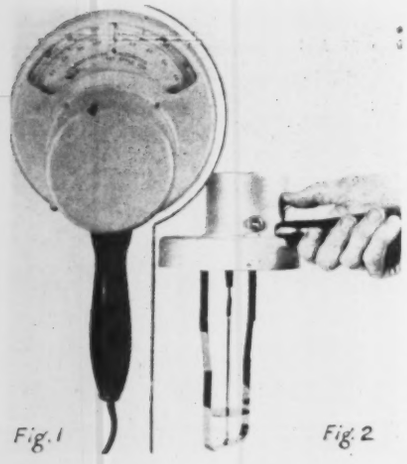

Fig. 1 Fig. 2

This illustration shows (Fig. 1) top and (Fig. 2) side view of standard model. For laboratory use, handle is removed from metal core which may be clamped in a ring stand.

Note these Advantages

Accurate determination in a few seconds.
Measures absolute viscosity in centipoises.
Continuous indicating or intermittent.
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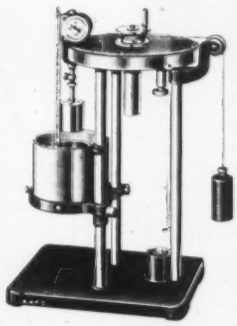

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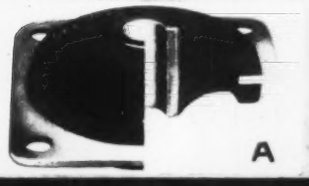

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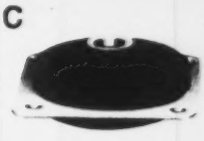

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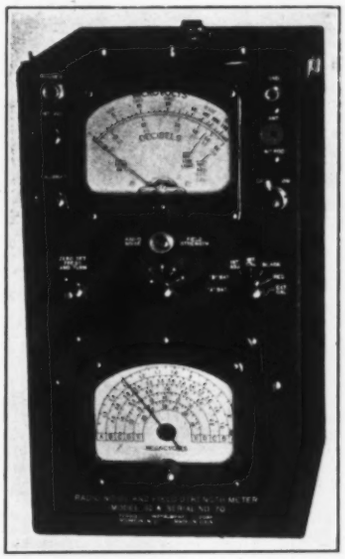

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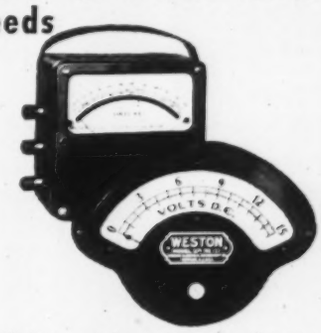

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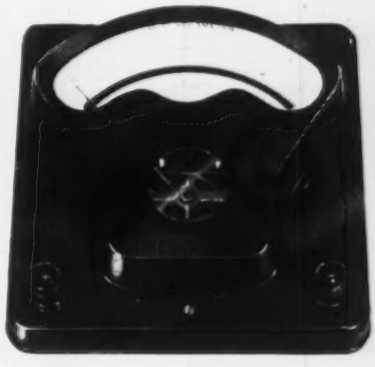

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Motors, all types of windings from 1/2000 to 1/6 hp, speed reducer & nonreducer motors

Boekel & Co., Wm., 509-519 Vine St., Philadelphia, Pa.
Laboratory apparatus

Boiler Room Equipment, Inc., 45 West 45th St., New York, N. Y.
Smoke alarms

Borden Electric Co., Summit, N. J.
Ground resistance meters

Boston Auto Gage Co., 70 West St., Pittsfield, Mass.
Liquid level gages and allied lines

Boulin Instrument Corp., 65 Madison Ave., New York, N. Y.
Chronometric hand tachometers, wound stroboscopes, electrical stroboscope, speed indicators & portable & stationary tachometers

Bowser & Co., Inc., S. F., 1302 E. Creighton Ave., Fort Wayne, Ind.
Liquid meters

Boylston Steam Specialty Co., 116 W. Illinois St., Chicago, Ill.
Regulating valves

Brabender Corp., Rochelle Park, N. J.
Industrial measuring & control apparatus for plastic & viscous materials; semi-automatic moisture testers

Braun Corp., 2260 East 15th St., Los Angeles, Calif.
Chemicals & laboratory supplies

Bristol Company, Waterbury, Conn.
Recording & automatic controlling instruments for pressure, vacuum, draft, absolute pressure, humidity, liquid level, flow, pH value, temperature (pyrometers & thermometers) & speed. Included are recording barometers, voltmeters, ammeters, wattmeters, dairy instruments, machine operation, motion & operation recorders, control valves, telemetering instruments, process cycle controllers, coordinated process control, time-temperature & time-pressure controllers, potentiometers, air operated & electric controllers & thermal converters. Variations & combinations of these instruments are offered for applications in the various industries & processes

Brodie Co., Inc., Ralph N., 61st & Lowell Sts., Oakland, Calif.
Positive displacement petroleum meters & accessories

Brooke Engineering Co., Inc., 4517 Wayne Ave., Philadelphia, Pa.
Electrically actuated pressure & flow controllers

Brookfield Engineering Laboratories, Sharon, Mass.
Synchro-lectric viscosimeter

Brown Gravity Meter Corp., P. O. Box 6005, Houston, Tex.
Instruments for measuring earth's gravitational field

Brown Instrument Company, 4482 Wayne Ave., Philadelphia, Pa.
Thermocouple & optical pyrometers, resistance thermometers, pressure thermometers, pressure gages, flow meters, liquid level gages, hygrometers, CO_2 meters, control systems; electric, air-operated & combined electric & air-operated; combustion safety controls, moisture content recorder & controller & furnace atmosphere recorder

Brown & Sharpe Mfg. Co., Providence, R. I.
Machine shop instruments

Brush Development Co., 3331 Perkins Ave., Cleveland, Ohio
Piezoelectric instruments including laboratory microphones, vibration & fluid pulsation pickups, galvanometers, pen oscillographs, surface finish testers, artificial ears, headphones, phonograph pickups & cutters

Bryden Co., 96 Church St., Waltham, Mass.
Scientific instruments

Buehler, Adolph I., 228 N. La Salle St. & Wacker Dr., Chicago, Ill.
Metallographic laboratory apparatus

Buffalo Meter Co., 2917 Main St., Buffalo, N. Y.
Liquid meters for measurement of cold water, hot water, oils, chemicals. Integrating registers, cumulative, setback, or predetermined control

Buffalo Scale Co., 1200 Niagara St., Buffalo, N. Y.
Scales

Builders Iron Foundry, 9 Codding St., Providence, R. I.
High pressure flow, level, weight, pressure & temperature, metering & control instruments

Bullard Co., E. D., 275 Eighth St., San Francisco, Calif.
Gas leak detectors

Bunnell & Company, J. H., 215 Fulton St., New York, N. Y.
Relays & switches

Burgess Battery Co., Freeport, Ill.
Dry batteries

Burke, Louis, 41 John St., New York, N. Y.
Stop watches and chronometers

Burling Instrument Co., 241 Springfield Ave., Newark, N. J.
Temperature controls for laboratories, Industrial processes, furnaces & ovens, (-100° to 1400°F.) Standard tubes or special alloys & ranges

Burlington Instrument Corp., Burlington, Iowa
Electrical control apparatus

Burt Scientific Labs., R. C., 1212 E. Green St., Pasadena, Calif.
Special instruments

Burton-Rogers Co., 857 Boylston St., Boston, Mass.
Electrical instruments

Bushnell and Nevius, 913 N. LaCienega Blvd., Los Angeles, Calif.
Control apparatus

C

Calculagraph Co., Harrison, N. J.
Elapsed time indicator

Cambridge Instrument Co., Inc., Grand Central Terminal, New York, N. Y.
Scientific & industrial instruments

Campion Labs., Don C., 9088 Alpine Ave., Detroit, Mich.
Liquid meters for small flows

Cardwell Mfg. Corp., Allen D., 81 Prospect St., Brooklyn, N. Y.
Variable & fixed air condensers

Cargille, R. P., 118 Liberty St., New York, N. Y.
Chemical laboratory & photographic devices

Cash Company, A. W., Decatur, Ill.
Combustion control instruments.

Central Scientific Co., 1700 Irving Park Blvd., Chicago, Ill.
Scientific instruments & laboratory apparatus

Central Station Steam Co., 2910 E. Woodbridge St., Detroit, Mich.
Rotary type condensate meter

Chace Co., W. M., 1600 Beard Ave., Detroit, Mich.
Thermostatic bimetals

Chaslyn Co., 4527 Ravenswood Ave., Chicago, Ill.
Storage battery testers

Chatillon & Sons, John, 85 Cliff St., New York, N. Y.
Iso-elastic springs

Chelsea Clock Company, 284 Everett Ave., Chelsea, Mass.
Clocks & clock movements

Chemical Rubber Co., 1933 West 114th St., Cleveland, Ohio
Laboratory supplies

Chicago Apparatus Co., 1735 No. Ashland Ave., Chicago, Ill.
Laboratory supplies

Chicago Dial Indicator Co., 544 W. Washington, Chicago, Ill.
Machinist's dial indicators

Cincinnati Scientific Co., 224 Main St., Cincinnati, Ohio
Laboratory supplies

Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati, Ohio
Time recorders

Clare & Co., C. P., Lawrence & Lamon Ave., Chicago, Ill.
Relays, electric counters & electro mechanical specialties

Clark Blast Meter Co., Chas. J., Gladbrook, Iowa
Foundry blast meters & pressure gages

Clark & Sons Co., Alvan, 58 Day St., West Somerville, Mass.
Optical & astronomical instruments

Clarostat Mfg. Co., Inc., 285 North Sixth St., Brooklyn, N. Y.
Resistors

Clay-Adams Co., Inc., 25 E. 26th St., New York, N. Y.
Angle & micro centrifuges, compact balances, analytical weights, microscope slides & cover glasses, glass & porcelain ink, tuning forks

Clebar Watch Co., 551 Fifth Ave., New York, N. Y.
Stop watches, timers & chronographs

Cleveland Gas Meter Co., 2180 East 65th St., Cleveland, Ohio
Tin case gas meters

Clifford Mfg. Co., 584 E. First St., Boston, Mass.
Metallic bellows & diaphragms; thermostatic assemblies; packless valves

Clough-Brengle Co., 5501 Broadway, Chicago, Ill.
Electrical instruments, communication testing instruments

Coats Machine Tool Co., Inc., 110 West 40th St., New York, N. Y.
Spring testers

Cochrane Corp., 17th St., Allegheny Avenue, Philadelphia, Pa.
Flowmeters, electrical & mechanical; liquid level meters & controllers; weir meters; pressure & temperature recorders; blow off & relief valves

Coie Co., H., 24 North High St., Columbus, Ohio
Surveying instruments

Coleman Electric Co., Inc., 310 Madison St., Maywood, Ill.
Electrical measuring instruments for technical applications

Colloid Equipment Co., Inc., 50 Church St., New York, N. Y.
Laboratory apparatus

Columbia Electric Mfg. Co., 4519 Hamilton Ave., Cleveland, Ohio
Rheostats, instruments, shunts, switchboards & special electrical equipment

Commerce Pattern Foundry & Machine Co., 2211 Grand River Ave., Detroit, Mich.
Balancing machines

Commercial Engineering Labs., 4612 Woodward Ave., Detroit, Mich.
Laboratory instruments for automotive, aircraft, railway & allied industries; air flow indicators, direct pressure & piezo-ray engine indicators, fuel flow indicators, magnetic gages, torsional vibration indicators (piezo-ray), recorders (torsiographs) & recording instruments for car performance & riding comfort

Commercial Iron Works, 2426 Porter St., Los Angeles, Calif.
Orifice fittings

Comtor Company, 87 Rumford Ave., Waltham, Mass.
Precision internal & external comparator-type diameter gages

Connelly Iron Sponge & Governor Co., 3154 So. California Ave., Chicago, Ill.
Gages & manometers, B T U indicator & H_2S tester

Consolidated Ashcroft Hancock Co., American Schaeffer & Budenberg Div., Bridgeport, Conn.
Industrial instruments

Consulting & Engineering Co., Carson St. & Terminal Way, Pittsburgh, Pa.
Combustion controllers

Continental Electric Co., Geneva, Ill.
Photoelectric tubes & equipment

Controls, Inc., 144 Main St., East Orange, N. J.
Control valves

Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Electrical control devices, metal bellows, vapor motors & telephone protective & distributing apparatus

Coors Porcelain Co., Golden, Colo.
Chemical & scientific porcelain

Corbin Screw Corp., New Britain, Conn.
Tachometers & speedometers

Cornell-Dubilier Electric Corp., So. Plainfield, New Jersey
Mica, dykanol, paper & wet & dry electrolytic capacitors

Corning Glass Works, Corning, N. Y.
Technical glassware

Coxhead Corp., Ralph C., 17 Park Place, New York, N. Y.
Composing typewriter with changeable faces and spaces used for preparing catalogues, bulletins, folders, forms, etc. for stencil or offset production

Cramer Co., Inc., R. W., Centerbrook, Conn.
Interval timers, running time meters, time switches, signal control switches

Crew Equipment Co., Inc., 101 Park Ave., New York, N. Y.
Combustion instruments

Crosby Steam Gage & Valve Co., 30 Church St., New York, N. Y.
Safety & relief valves, gages, recorders, testers & steam engine indicators

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Cutler-Hammer, Inc., 315 North 12th St., Milwaukee, Wis.
Electric motor control; safety switches, motor driven valve operators, gas calorimeters, gas mixing & stabilizing control, resistors

D

Dalzell & Co., A., 159 W. Kinzie St., Chicago, Ill.
Laboratory supplies
Daniel Orifice Fitting Co., 3350 U. P. Ave., Los Angeles, Calif.
Orifice fittings
Daven Co., 158 Summit St., Newark, N. J.
Attenuators, calibrating equipment for electrical instruments & resistors
Davis & Co., Inc., Dean W., 549 Fulton St., Chicago
Electrical coils, solenoids & transformers
Davis Emergency Equipment Co., Inc., 57 Van Dam Street, New York, N. Y.
Inflammable gas alarms
Davis Regulator Co., 2541 So. Washtenaw Ave., Pilsen Sta., Chicago, Ill.
Valves
Dearborn Gage Co., 22038 Beech St., Dearborn, Mich.
Chromium plated gage blocks
Defender Automatic Regulator Co., 308 S. 8th St., St. Louis, Mo.
Industrial instruments
De Jur-Amsco Corp., Shelton, Conn.
Photoelectric exposure meters
Delmhorst, Wm. J., 90 West St., New York, N. Y.
Moisture detectors
Denominator Co., Inc., 261 Broadway, New York
Group counting machines
Denver Fire Clay Co., 2301 Blake St., Denver, Colo.
Specialized industrial control equipment for power plant & processing industries, laboratory specialties
D'Este Co., Julien, 6 Spice St., Charlestown, Mass.
Control valves
Detroit Air Meter Co., P. O. Box 1473, Detroit, Mich.
Air flowmeters
Detroit Lubricator Co., 5900 Trumbull Ave., Detroit, Mich.
Automatic controls & equipment for air conditioning
Detroit Testing Machine Co., 5137 Trumbull Ave., Detroit, Mich.
Testing machines
Deutschmann Corp., Tobe, Canton, Mass.
Equipment for locating, eliminating, and measuring radio noise; electrolytic, paper dielectric & oil type capacitors
Dickson Co., 7420 Woodlawn Ave., Chicago, Ill.
Furnace controls
Dietert Co., Harry W., 9330 Roselawn Ave., Detroit, Mich.
Sand testing equipment; immersion pyrometers, moisture testers, accessories for spectrographic laboratories
Dietzen Co., Eugene, 2425 Sheffield Ave., Chicago
Drafting & surveying instruments
Dillon & Co., Inc., W. C., 3551 Sheffield Ave., Chicago, Ill.
Traction dynamometers, tensile machines, thermometers
Distillation Products, Inc., 755 Ridge Road West, Rochester, N. Y.
High vacuum pumps, low vapor pressure fluids & auxiliary equipment
Dockson Co., C. H., 3839 Wabash Ave., Detroit, Mich.
Regulating valves
Dongan Electric Mfg. Co., 2987 Franklin St., Detroit, Mich.
Transformers
Dorr-Patterson Engineering Co., 3660 Wight St., Detroit, Mich.
Physical testing machines
Drillmeter, Inc., 616 Exchange Bank Bldg., Tulsa, Okla.
Oil well instruments
Dubrovin, John, 2946 N. Kenneth Ave., Chicago, Ill.
Mercurial vacuum gage, absolute type
Ducommun Co., M., 580 Fifth Ave., New York, N. Y.
Coil-spring stopwatches
Du Mont Labs., Inc., Allen B., 2 Main Ave., Passaic, N. J.
Cathode-ray oscillographs, cathode-ray tubes, associated electronic equipment, television control, studio & transmitting equipment
Duncan Electric Mfg. Co., Lafayette, Ind.
A-c. & d-c. watthour meters, service & switchboard types; portable test meters, appliance meters & instrument transformers
Dunn, Inc., Struthers, 1310 Cherry St., Philadelphia, Pa.
Relays, timing devices, electric counters, thermostats
Durant Manufacturing Co., 1030 N. Buffum St., Milwaukee, Wisc.
Counting & measuring machines
Dwyer Mfg. Co., F. W., 565 W. Washington Blvd., Chicago, Ill.
Portable & stationary draft gages, CO_2 indicators & combustion testing sets

E

Eagle Signal Corp., Moline, Ill.
Industrial control devices, traffic signal controllers & sign flashers
Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Laboratory pumps, stirrers & thermoregulators
Eastern Science Supply Co., 7-9 High St., Brookline, Mass.
Meteorological instruments
Eastern Specialty Co., 3617 N. 8th St., Philadelphia, Pa.
Testing equipment for checking & maintenance of all types of electricity meters such as watthour meters, demand instruments, etc. Special apparatus for load survey work.
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Relays & radio parts
Eclipse Aviation, Div. of Bendix Aviation Corp., Bendix, N. J.
Aircraft electrical & mechanical accessories
Economy Electric Devices Co., 37 West Van Buren St., Chicago, Ill.
Electric meters, watthour & ampere-hour, for street and electric railways and trolley busses
Edelmann & Co., E., 2532 Logan Blvd., Chicago, Ill.
Automotive test instruments
Edison, Inc., Thomas A., Edison Electrical Controls Division, West Orange, N. J.
Sealed-in-glass control devices, including thermostatic switches, fire detection thermostats, & timing relays. Hermetically sealed thermostatic valves. Special control equipment
Etkalin Co., 15 Moore St., New York, N. Y.
Heat indicating paints & inks
Eimer & Amend, 205-223 Third Ave., New York, N. Y.
Biological & chemical laboratory apparatus & supplies
Electric Controller & Mfg. Co., 2700 East 79th St., Cleveland, Ohio
Electrical controllers
Electric Heat Control Apparatus Co., 175 Fifth Ave., New York, N. Y.
Laboratory ovens
Electric Indicator Corp., 21 Parker Ave., Stamford, Conn.
Synchronous motors, position indicators, level controls, signalling devices
Electric Speed Indicator Co., 14618 Bayes Ave., Lakewood, Ohio
Precision electric tachometers & remote position indicators
Electric Switch Corp., 1409 Union St., Columbus, Ind.
Mercury switches
Electric Tachometer Corp., 1358 Spring Garden St., Philadelphia, Pa.
Speed indicators & recorders, electric & mechanical counters
Electric Valve Mfg. Co., 64 Murray, New York, N. Y.
Electrically operated valves
Electrical Coil Winding Co., 2736 Saunders St., Camden, N. J.
Magnet & solenoid coils
Electrical Facilities Inc., 4224 Holden St., Oakland, Calif.
Apparatus for electrical measuring & testing, including precision transformers, watthour meter and instrument transformer testing equipment; rectifier apparatus
Electrical Research Products Inc., 195 Broadway, New York, N. Y.
Instruments are offered for acoustic, noise or vibration control problems, in the product development laboratory, for field testing and for routine production testing applications
Electrimatic Corp., 2100 Indiana Ave., Chicago, Ill.
Automatic control valves & controls, regulating valves, Pressure, temperature & electrical actuation
Electro-Medical Laboratory, Inc., Hollis ton, Mass.
Neurological & allied medical instruments & general electronic apparatus
Electro Products Laboratories, 549 West Randolph St., Chicago, Ill.
Battery eliminators & rectified A.C. devices
Electrocon Corp., 6 Varick St., New York, N. Y.
Vibration measuring instruments & equipment for dynamic balancing of rotating machines
Electronic Design Corp., 164 No. May St., Chicago, Ill.
Radio test instruments
Electronic Laboratory, 306 S. Edinburgh Ave., Los Angeles, Calif.
Photo-electric instruments; also photoconductive cells.
Electronic Products Co., St. Charles, Ill.
Electronic devices
Electronic Research Laboratory, Niles Center, Illinois
Color analysis apparatus
Electrons, Inc. of Delaware, 127 Sussex Ave., Newark, N. J.
Gas-filled & grid-control rectifier tubes
Elgin National Watch Co., Elgin, Ill.
Watches, clocks, aircraft instruments
Ellison Draft Gage Co., 214 West Kenzie St., Chicago, Ill.
Manometers, draft gages, orsats
Elsbert Mfg. Co., Inc., 353 West Grand Ave., Chicago, Ill.
Remote control fractional horsepower motors
Emerson Apparatus Co., 171 Tremont St., Melrose, Mass.
Calorimeters
Emery Co., A. H., 682 Main St., Stamford, Conn.
Bourdon gages
E-Nam Corporation, 45 E. 17 St., New York, N. Y.
Fine enameled copper wire
Engel, Inc., H. C. M., P. O. Box 233, Sidney, N. Y.
Small drills, small turned parts, millstones in sapphire and block grinding discs
Engelhard, Inc., Charles, 233 New Jersey R. R. Ave., Newark, N. J.
Industrial instruments
Engineering Laboratories, Inc., 705 Kennedy Bldg., Tulsa, Okla.
Seismic exploration equipment, vibration detectors, petroleum engineering devices, signalling equipment
Eppley Laboratory Inc., 12 Sheffield Ave., Newport, R. I.
Thermopiles, pyrheliometers & standard cells for both industrial & laboratory use
Ermastat Co., 1825-39 Wylie St., Philadelphia, Pa.
Electric motor overload protectors
Ess Instrument Co., 31 Irving Place, New York, N. Y.
Combustion indicators & recorders, visual & electric eye smoke indicators, flame failure alarms, sensitive relays & special electric eye indicators
Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
Graphic recording & contact-making electrical instruments, time, speed, condensate purity, pressure & vacuum recorders, telemeters & portable current transformers
Etna Electric Works, 410 East 15th St., New York, N. Y.
Electrical instruments
Everson Mfg. Co., 214 W. Huron St., Chicago, Ill.
Chemical feeders
Exact Weight Scale Co., 944 West 5th Ave., Columbus, Ohio
Over-and-under weight scales & indicators for industrial purposes

F

Faiciney Instrument Corp., Watertown, N. Y.
Laboratory thermometers
Fairbanks, Morse & Co., 600 So. Michigan Ave., Chicago, Ill.
Scales
Falstrom Co., Main Ave. & D. L. & W. R. R., Passaic, N. J.
Steel instrument panels, panel board assemblies, cubicles, totally enclosed weather & vermin proof instrument enclosures & steel cabinets
Fassett Co., Inc., C. M., 209 North Wall St., Spokane, Wash.
Laboratory supplies
Fecker, J. W., 2016 Perrysville Ave., N. S., Pittsburgh, Pa.
Astronomical instruments
Federal Pneumatic Systems, Inc., 127 N. Dearborn St., Chicago, Ill.
Particle size classifiers
Federal Products Corp., 1144 Eddy St., Providence, R. I.
Precision measuring instruments
Fee and Stentzedel, Inc., 1949 North Pulaski Rd., Chicago, Ill.
Dial type thermometers, barometers, humidity indicators & allied products, field glasses & binoculars
Fenwal, Inc., 3 Main St., Ashland, Mass.
Industrial thermostats
Ferner Co., R. Y., 131 State St., Boston, Mass.
Precision instruments
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
Electrical instruments
Ferris Instrument Corp., Boonton, N. J.
Laboratory & production testing equipment, radio noise & field strength meters & special electrical instruments
Fidelity Machine Co., 3906 Frankfort Ave., Philadelphia, Pa.
Abrasion testers
Fischer & Porter Co., 128 West Penn St., Germantown, Philadelphia, Pa.
Rotameters, sight flow meters, precision glass tubes of any shape including square, oval, cylindrical, tapered.
Fish-Schurman Corp., 250 East 43rd St., New York, N. Y.
Scientific instruments, optical, technical & scientific glassware & porcelain
Fisher Governor Co., Marshalltown, Iowa
Motor control valves & regulators
Fisher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
Standard & special equipment & instruments for chemical, biological & metallurgical laboratories
Fleischhauer & Son, Frank, 89-36 187 Place, Hollis, L. I., N. Y.
Thermometers & hydrometers
Fluid Meters, Inc., 44 Wall St., Room 1101, New York, N. Y.
Positive displacement meters, 1/16 to 8 gallons per hour with gravity pressures
Ford Meter Box Co., Wabash, Indiana
Water meter testers
Ford Motor Company, 3674 Schaefer Rd., Dearborn, Mich.
Johansson gage blocks & accessories such as parallels, adjustable holders, scribers, straight edges, center points, sine bars
Ford Regulator Valve Co., 103 Broome St., New York, N. Y.
Regulating valves

Foster Engineering Co., 109 Monroe St., Newark, N. J.
Control valves

Foxboro Co., 46 Neponset Ave., Foxboro, Mass.
Indicating, recording & controlling instruments for pressure, temperature, humidity, level & flow

Frick Co., Inc., Waynesboro, Pa.
Float valve controls & electric controls, refrigerating & air conditioning machinery

Fried & Lustig, Inc., 31 Union Square, New York, N. Y.
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Friez & Sons, Julius P., Baltimore St. & Central Ave., Baltimore, Md.
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Froher-Fayhor Co., 4612 Prospect Ave., Cleveland, Ohio
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Fuess, Inc., R., 39 West 60th St., New York, N. Y.
Scientific instruments

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Furnas Electric Co., 811 South 72nd St., West Allis, Wis.
Pressure controls

G

Gaertner Scientific Corp., 1201 Wrightwood Ave., Chicago, Ill.
Physical & scientific instruments

Gas Appliance Specialties Co., 57th St., bet. Northern Blvd. & 32nd Ave., Woodside, New York, N. Y.
Gas regulators

Gauthier, Donat A., 7408 Poe Ave., Detroit, Mich.
Gasoline measuring devices & automobile service station testers

Geier & Bluhm Inc., 607 River St., Troy, N. Y.
Mechanical devices & spirit level vials

Genales, Andrew, 29 Second Ave., Nyack, N. Y.
Toolroom test indicators

General Biological Supply House, Inc., 761 East 69th Pl., Chicago, Ill.
Biological laboratory supplies

General Combustion Corp., 2218 W. Lake St., Chicago, Ill.
Combustion equipment

General Controls Co., 1370 Harrison, San Francisco, Calif.
Control valves

General Electric Co., 1 River Rd., Schenectady, N. Y.
Electrical instruments & meters

General Electric Co., Lamp Dept., Nela Park, Cleveland, Ohio
Lighting sources

General Electric X-Ray Corp., 2012 Jackson Blvd., Chicago, Ill.
Medical, dental & industrial X-ray apparatus, accessories & suppliers

General Engg. & Model Works, 421 N. Braddock Ave., Pittsburgh, Pa.
Gages & precision measuring instruments for checking threaded tubular products

General Physical Laboratory, 509 Fifth Ave., New York, N. Y.
Electronic apparatus

General Radio Co., 30 State St., Cambridge, Mass.
Radio & electrical measuring instruments for laboratory & industrial use; stroboscopes, noise measuring equipment, measuring & test equipment for electrical communication systems

General Regulator Corp., 165 Broadway, New York, N. Y.
Combustion, draft, liquid level & pressure controls

General Sales & Products Corp., 45 Mohawk St., Cohoes, N. Y.
Shut-off valves

General Scientific Corp., 4829 So. Kedzie Ave., Chicago, Ill.
Lenses & photoelectric cells

General Television Corp., 70 Brookline Ave., Boston, Mass.
Ionization vacuum gages

Geophysical Instrument Co., 1315 Half St., S. E., Washington, D. C.
Instruments & accessories for prospecting for oil, minerals, water, bedrock; also equipment for making measurements in wells

Gilmore, E. R., Box 5718, Homewood Sta., Pittsburgh, Pa.
Gas leak stethoscopes

Gisholt Machine Co., Madison, Wis.
Static & dynamic balancing machines

Glass Engraving Co., 3604-3606 Park Ave., New York, N. Y.
Glass engraving

Gleason-Avery, Inc., 27 Clark, Auburn, N. Y.
Furnace controls

Globe Phone Mfg. Corp., Reading, Mass.
Pipe locating equipment, leaky valve locators, hearing aids, secret phone or listening equipment for government investigating agencies

Globe Tool & Engg. Co., 410 Davis Ave., Dayton, Ohio
Dynamic balancing equipment

Glogau & Co., 1632 Rand McNally Bldg., Chicago, Ill.
Calipers

G-M Laboratories, Inc., 1731 Belmont Ave., Chicago, Ill.
Photoelectric cells, photoelectric relays, slide wire rheostats, galvanometers, laboratory stands & clamps

G. M. Manufacturing Co., 189 Centre St., New York, N. Y.
Thermometers, hydrometers, psychrometers, hygrometers

G. M. Manufacturing Co., Inc., 43-10 - 21st St., Long Island City, N. Y.
Tire pressure gages & engine compression indicators

Goerz American Optical Co., C. P., 317 East 34th St., New York, N. Y.
Photographic lenses & accessories

Goodrich Co., B. F., 450 South Main St., Akron, Ohio
Vibration absorbers

Gordon Co., Claud S., 1524 S. Western Ave., Chicago, Ill.
High temperature equipment accessories, such as thermocouples, thermocouple wire, lead wire, insulators

Gorrell & Gorrell, Chicago Heights, Ill.
Equipment for biological & psychological work

Gotham Instrument Co., 127 Spring St., New York, N. Y.
Indicating, dial & recording thermometers

Gotham Scientific Co., 106 Water St., New York, N. Y.
Laboratory supplies

Gow-Mac Instrument Co., 20 Washington Pl., Newark, N. J.
Thermal conductivity gas analyzers & gas analysis cells

Gray Instrument Co., 641½ W. Johnson St., Philadelphia, Pa.
Scientific instruments

Green, Arthur R., 284 Harris Ave., Needham, Mass.
Paper plant test instruments

Green, Henry J., 1191 Bedford Ave., Brooklyn, N. Y.
Meteorological instruments

Greenfield Tap & Die Corp., Greenfield, Mass.
Machine shop gages

Griebel Instrument Co., Inc., 12 River St., Carbondale, Pa.
Thermometers, hydrometers, chemical & laboratory glassware

Griner Co., A. J., 417 East 13th St., Kansas City, Mo.
Laboratory supplies

Grove Regulator Co., 1729 Poplar St., Oakland, Calif.
Pump governors, pressure reducing & back pressure regulators for gas or liquid pressures to 6000 lbs.

Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
A-c. and d-c. relays

Gump Co., B. F., 435 S. Clinton St., Chicago, Ill.
Scales

Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Surveying & allied engineering instruments, paper testing & aeronautical navigation instruments & standard weights & measures

H

Hagan Corp., 600 Bowman Bldg., Pittsburgh, Pa.
Combustion control equipment

Haines Gauge Co., 119 South 4th St., Philadelphia, Pa.
Dial micrometer gage

Hall-Jorson Co., 4500 Ravenswood Ave., Chicago, Ill.
Laboratory transformers

Halliburton Oil Well Cementing Co., Duncan, Okla.
Oil well surveying instruments

Hamilton Mfg. Co., Two Rivers, Wis.
Laboratory furniture

Hanlon-Waters, Inc., Box 1559, Tulsa, Okla.
Pressure & level controls, time cycle controllers

Hannifin Mfg. Co., 621 So. Kolmer Ave., Chicago, Ill.
Valve operating devices

Hanovia Chemical & Mfg. Co., 90 Chestnut St., Newark, N. J.
Quartz mercury arc lamps

Hardwick, Hindle, Inc., 40 Hermon St., Newark, N. J.
Resistors

Hart Manufacturing Co., 110 Bartholomew Ave., Hartford, Conn.
Thermostats, remote control switches, magnetic relays, heater switches, motor control switches, mercury tube relays

Hart Mfg. Co., R. E., 416 Ward Bldg., Battle Creek, Mich.
Production counters

Hasler-Tel Co., 30 Vesey St., New York, N. Y.
Speed indicators, portable, chronometric

Hathaway Instrument Co., 517 S. University Blvd., Denver, Colo.
Instruments & apparatus for electrical & mechanical measurements & control.

Hayes Scientific Appliances, 202 N. Broadway, Urbana, Ill.
Scientific instruments

Hays Corp., P. O. Box 299, Michigan City, Ind.
Combustion instruments & automatic combustion controls

Hays Laboratories, Box 752, Pawtucket, R. I.
Colorimeters

H-B Electric Co., Inc., 2501 N. Broad St., Philadelphia, Pa.
Mercury tube relays

H-B Instrument Co., Inc., 2501 N. Broad St., Philadelphia, Pa.
Thermometers & hydrometers, remote control equipment

HH Electric Co., 100 W. Monroe St., Chicago, Ill.
Split core ammeters

Hebler Co., W. O., Central at Long Ave., Hillside, N. J.
Electrical gas analyzers

Heiland Research Corp., 700 Club Bldg., Denver, Colo.
Geophysical & industrial instruments

Heise Bourdon Tube Co., 275 Noble Ave., Bridgeport, Conn.
Bourdon tube devices

Hellige, Inc., 3718 Northern Blvd., Long Island City, N. Y.
Scientific instruments, laboratory & bacteriological supplies

Henderson & Co., H. R., East Liverpool, Ohio
Pyrometric cones

Henschel & Co., Inc., John, 105 E. 29th St., New York, N. Y.
Drawing instruments

Henszey Co., Watertown, Wis.
Feed water meters, flow indicators continuous blow-down, heat exchangers and boiler feed regulators. Also meters and flow indicators for corrosive chemicals

Hesser Instrument Mfg. Co., 134 West Second South St., Salt Lake City, Utah
Analytical balances

Hewlett-Packard Co., 367 Addison Ave., Palo Alto, California.
Electronic equipment

Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio
Electric indicating instruments

Hoffman Co., S. O., 835 Howard St., San Francisco, Calif.
Bolometers

Hoke, Inc., 122 Fifth Ave., New York, N. Y.
Regulators

Holz, Herman A., 116 West 14th St., New York, N. Y.
Testing machines

Hook & Ackerman, Inc., 349 Freeport, Aspinwall, Pittsburgh, Pa.
Solenoid valves

Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
Thermo-couples, heating elements, pyrometers & electric furnaces

Howard Clock Products, Inc., 256 Charles St., Waltham, Mass.
Observatory & seismological clocks.

Howe & French, Inc., 99 Broad St., Boston, Mass.
Laboratory supplies

Howe Scale Co., Rutland, Vt.
Scales

Huddleston, J. S. F., 104 Hanover St., Boston, Mass.
Thermometers

Humboldt Mfg. Co., 2014 N. Whipple St., Chicago, Ill.
Cement & concrete testers

Hunt & Son, C. R., Salem, Ohio
Valves & valve operating devices.

Hydraulic Press Co., Mount Gilead, Ohio
Pressure controls

Hy Et Electrical Products Mfg. Co., 1515 West Pico, Los Angeles, Calif.
Automobile service station instruments

I

Ideal Commutator Dresser Co., Sycamore, Ill.
Insulation testers

Illinois Engineering Co., Racine Ave. & 20th Pl., Chicago, Ill.
Regulating valves

Illinois Testing Laboratories, Inc., 420 North La Salle St., Chicago, Ill.
Indicating pyrometers, resistance thermometers, pyrometer controllers, air velocity meters, metal detectors.

Impact Register Co., 315 So. Neil St., Champaign, Ill.
Instruments for determining and recording impacts received by railroad cars and riding qualities of railroad cars, automobiles

Improved Gauge Mfg. Co., 101-107 Canal St., Syracuse, N. Y.
Bourdon gages

Indicating Calipers Corp., 506 East 19th St., New York, N. Y.
Indicating calipers

Industrial Engineering Corp., Evansville, Ind.
Relays

Industrial Instrument Co., 2249 14th St., S. W., Akron, Ohio
Temperature, pressure & time cycle controllers, indicating & dial thermometers, diaphragm valves.

Industrial Instruments, Inc., 156 Culver Ave., Jersey City, N. J.
Electrical measuring & test equipment

Industro-Scientific Co., 340 So. Camac St., Philadelphia, Pa.
Valentine refractometers & PQ viscosimeters

Inferno Co., Box 1138, Shreveport, La.
Combustion instruments

Inspection Machinery Co., 5511 Euclid Ave., Cleveland, Ohio
Custom built automatic equipment for counting, gaging, weighing & electrical testing of small parts & devices, industrial electronic control devices

Instrument Resistors, Inc., 375 Main St., Little Falls, N. J.
Wire wound resistors

Instrument Specialties Co., Inc., 379 Main St., Little Falls, N. J.
Precision micrometer

Intercontinental Marketing Corp., 10 E. 40th St., New York, N. Y.
Photoelectric cells

International Business Machines Corp., 590 Madison Ave., New York, N. Y.
Scales & time instruments

International Equipment Co., 352 Western Ave., Boston, Mass.
Analytical centrifuges

International Filter Co., 325 W. 25th Place, Chicago, Ill.
Hydraulic measurement & control & chemical feeding & proportioning.

International Register Co., 25 South Throop St., Chicago, Ill.
Coin meters—timers for electric ranges & gas ovens.

International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Metallized & wirewound fixed & variable resistors including high voltage & high frequency types.

J

Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
Radio testing equipment

Jacobs Bros. Co. Inc., 1 Main St., Brooklyn, N. Y.
Scales

Jaeger Watch Co., Inc., 304 East 45th St., New York, N. Y.
Automobile clocks, timepieces for aviation and marine, chronometric tachometers & true airspeed indicators

Jardor Import Co., 21 W. 19th St., New York, N. Y.
Chronographs & stop-watches

J B L Instrument Co., P. O. Box 135, Darby, Pa.
Rotary instrument switches, transformer tapping, railway signal gear, decade resistance boxes

J-B-T Instruments, Inc., 441 Chapel St., New Haven, Conn.
Electrical measuring & controlling instruments: pyrometers, thermocouples, selector switches, potentiometers, resistance thermometers, laboratory instruments

Jeffrey Mfg. Co., Columbus, Ohio
Weighting, feeding, batching & proportioning equipment

Jenkins Bros., 80 White St., New York, N. Y.
Regulating valves

Jensen Instrument Co., 624 East 4th St., Los Angeles, Calif.
High pressure manometer

Jerguson Gage & Valve Co., Mystic Ave. & Fellsway, Somerville, Mass.
Automatic shut-off valves

Johnson Service Co., 507 E. Michigan St., Milwaukee, Wisc.
Automatic temperature & humidity control for heating, cooling, ventilating, air conditioning & industrial processes

Johnson-Williams, Ltd., Box S, Palo Alto, Calif.
Combustible gas indicators & alarm systems, portable & continuous, including accessories

Johnston & Jennings Co., 877 Addison Rd., Cleveland, Ohio
Oil meters

Johnston Manufacturing Co., 2823 E. Hennepin Ave., Minneapolis, Minn.
Furnace controls

Jones & Lamson Machine Co., Clinton & Whitmore Sts., Springfield, Vt.
Optical comparators

Jones Motrola Sales Co., 432 Fairfield Ave., Stamford, Conn.
Tachometers

Jones-Orme Co., 2233 University Ave., St. Paul, Minn.
Audio frequency standard signal generators, oscillators, laboratory amplifiers & special audio frequency laboratory equipment

Judson Governor Co., 38 Browns Race, Rochester, N. Y.
Governors

K

Kansas City Laboratory Supply Co., 1434 Wyandotte St., Kansas City, Mo.
Laboratory supplies

Karp Metal Products Co. Inc., 129 - 30th St., Brooklyn, N. Y.
Instrument panels

Keller Mfg. Co., G. P., 1388 South State St., Salt Lake City, Utah
Balances & weights of precision

Kelley-Koett Mfg. Co. Inc., Covington, Ky.
X-Ray apparatus

Kellogg Switchboard & Supply Co., Clearing Station, Chicago, Ill.
Relays

Kenyon Instrument Co., Inc., 273 New York Ave., Huntington, L. I., N. Y.
Airport & marine instruments

Kern Co., 136 Liberty St., New York, N. Y.
Surveying & astronomical instruments

Kessling Thermometer Co., E., 682-684 Jamaica Ave., Brooklyn, N. Y.
Thermometers

Keuffel & Esser Co., Adams & Third Sts., Hoboken, N. J.
Surveying instruments

Kewaunee Mfg. Co., 106 Lincoln St., Kewaunee, Wis.
Laboratory furniture

Kieley & Mueller, Inc., 40 W. 13th St., New York, N. Y.
Pressure regulating & flow control devices

Kimball Co., W. W., 420 Kimball Bldg., Chicago, Ill.
Laboratory furniture

Kimble Glass Co., Vineland, N. J.
Glass apparatus, glass tubing, thermometers, hydrometers

Kingsbury Machine Works, Inc., 4316 Tackawanna St., Philadelphia, Pa.
Thrust meters

King-Seeley Corp., 302 Second St., Ann Arbor, Mich.
Fuel level, oil pressure & temperature gages; also ammeters & voltmeters

Klett Mfg. Co., 179 E. 87th St., New York, N. Y.
Colorimeters

Klingerit, Inc., 16 Hudson St., New York, N. Y.
Liquid level gages

Klinfel Mfg. Co., 2641 W. Harrison St., Chicago, Ill.
Regulating valves

Knowles Scale Works, Lowell, Mass.
Platform, counter & beam scales

Kolesch & Co., 138 Fulton St., New York, N. Y.
Surveying instruments

Kollmorgen Optical Co., 767 Wythe Ave., Brooklyn, N. Y.
Astronomical & optical instruments

Kollsman Instrument Co. Inc., 8008 - 45th Ave., Elmhurst, Long Island, N. Y.
Precision instruments for aircraft

Kron Co., Bridgeport, Conn.
Scales

Krouse Testing Machine Co., 101 E. Dominion Blvd., Columbus, Ohio
Fatigue testing machines

Kurman Electric Co. Inc., 241 Lafayette St., New York, N. Y.
Relays, electrical test equipment, hearing devices

L

L. A. B. Corp., P. O. Box 162, Summit, N. J.
Special instruments

Laboratory Construction Co., 1113-15 Holmes St., Kansas City, Mo.
Laboratory furniture & apparatus

Laboratory Furniture Co., Inc., 37-18 Northern Blvd., Long Island City, N. Y.
Laboratory furniture

Laboratory Materials Co., 7319 Vincennes Ave., Chicago, Ill.
Laboratory supplies

Lambert Meter Co., Inc., Plainfield, N. J.
Gas meters

Lammert & Mann Co., 260 N. Woods St., Chicago, Ill.
Flow regulators & valves

LaMotte Chemical Products Co., McCormick Bldg., Baltimore, Md.
Hydrogen ion apparatus

Lampkin Laboratories, Bradenton, Fla.
Radio-frequency meters

Landis & Gyr, Inc., 104 Fifth Ave., New York, N. Y.
Electric integrating meters; indicating & graphic demand meters for KW, KVA, reactive; prepayment meters; totalizing & remote; time switches; motor wound escapement or synchronous motor types with astronomic dials; miniature ball bearings

Lantz-Phelps Corp., 420 Linden Ave., Dayton, Ohio
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La Pine & Co., Arthur S., 114 W. Hubbard St., Chicago, Ill.
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Leach Relay Co., 5915 Avalon Blvd., Los Angeles, Calif.
Relays

Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
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Leitz, Inc., E., 730 Fifth Ave., New York, N. Y.
Optical instruments

Leslie Co., Lyndhurst, N. J.
Pressure reducing valves, pump governors, temperature regulators

Leupold, Volpel & Co., 425 N. E. 70th Ave., Portland, Oregon
Recorders & indicators, for irrigation, power, waterworks, sewerage. Equipment for hydraulic laboratories. Snow-rain recorders, hydrographic accessories, transits, levels

Lewis Engineering Co., 52 Rubber Ave., Naugatuck, Conn.
Portable pyrometers, potentiometers, resistance thermometers & other electrical temperature measuring devices

Lincoln Meter Co., Springfield, Ill.
Thermal ampere demand & watt demand meters, indicating & graphic

Lindberg Engineering Co., 221 North Laflin St., Chicago, Ill.
Electric power input controls

Link Engineering & Mfg. Co., 1054 W. Baltimore Ave., Detroit, Mich.
Spring testers

Lipman Engineering Co., 415 Van Braam St., Pittsburgh, Pa.
Photoelectric counters

Liquidometer Corp., 36-16 Skillman Ave., Long Island City, N. Y.
Liquid level gages

Littelfuse, Inc., 4757 Ravenswood Ave., Chicago, Ill.
Low range precision fuses & fuse mountings

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Lumenite Electric Co., 37 West Van Buren St., Chicago, Ill.
Photoelectric controls

Lundquist Tool & Mfg. Co., 57 Jackson St., Worcester, Mass.
Ammeters

Lux Clock Mfg. Co., Inc., 95 Johnson St., Waterbury, Conn.
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Luxtrol Co., Inc., 54 West 21st St., New York, N. Y.
Photoelectric apparatus

M

Macalaster Bicknell Co., 171 Washington St., Cambridge, Mass.
Laboratory supplies

Macbeth Daylighting Corp., 227 West 17th St., New York, N. Y.
Daylight Lamps for titration & color matching

Machlett & Son, E., 220 East 23rd St., New York, N. Y.
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Magnatrol Valve Corp., 52 Reckman St., New York, N. Y.
Valves

Magnasyn Co., Inc., Fort Wayne, Indiana
Electrolytic capacitors

Magnetic Analysis Corp., 42-44 12th St., Long Island City, N. Y.
Magnetic inspectors for uniform cross-sectional steel

Magnetic Gauge Co., 60 E. Bartges St., Akron, Ohio
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Marine Compass Co., Bryantville, Mass.
Marine instruments

Marsh Corp., Jas. P., 2073 Southport Ave., Chicago, Ill.
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Marston Co., C. A., 506 Washington St., Braintree, Mass.
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Martin-Decker Corp., P. O. Box 571, Long Beach, Calif.
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Mason-Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Industrial control equipment for pressure temperature, flow, liquid level, combustion & ratio; diaphragm control valves; pressure & vacuum regulators; level controllers; pump speed governors; pump pressure regulators; pipe strainers

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McCord Radiator & Mfg. Co., 2585 E. Grand Ave., Detroit, Mich.
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McFarlin Co., 29 West Marion Ave., Youngstown, Ohio
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McNab of Bridgeport, Inc., Bridgeport, Conn.
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McNeill Engineering Equipment Co., T. W., 1057 West Van Buren St., Chicago, Ill.
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Measured Time, Inc., La Porte, Ind.
Timers

Meldrum-Gabrielson Corp., 601 W. Fayette St., Syracuse, N. Y.
Snap gages

Mercoid Corp., 4201 Belmont Ave., Chicago, Ill.
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Mercon Regulator Co., 2357 N. 29th St., Milwaukee, Wisc.
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Merritt Engg. & Sales Co., Inc., 120 So. Niagara St., Lockport, N. Y.
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Micro Switch Corp., Spring St., Freeport, Illinois
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Microvolts, Inc., 212 Harrison St., Boonton, N. J.
Radio-frequency testing & measuring devices

Miles Reproducer Co., 812 Broadway, New York, N. Y.
Microphones, sound recorders, amplifiers for industry.

Miller Co., B. F., P. O. Box 455, Trenton, N. J.
Electrical testing devices

Millers Falls Co., Greenfield, Mass.
Machine shop gages

Million Radio & Television, 685 West Ohio St., Chicago, Ill.
Radio & allied testing instruments

Milwaukee Gas Specialty Co., 2025 W. Clybourn, Milwaukee, Wis.
Valves, fittings & safety shut-offs for gas fired equipment

Minerallac Electric Co., 25 N. Peoria St., Chicago, Ill.
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Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa.
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Mine & Smelter Supply Co., 1422-17th St., Denver, Colo.
Industrial equipment & supplies

Minneapolis Elec. & Construction Co., 80 South 12th St., Minneapolis, Minn.
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Meter Devices Co., 1001 Prospect Ave., S. W., Canton, Ohio
Electrical test devices

Meyer Governor Co., 284 Baker Bldg., Minneapolis, Minn.
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Meylan, A. R. & J. E., 264 West 40th St., New York, N. Y.
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Mico Instrument Co., 10 Arrow St., Cambridge, Mass.
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Moist-O-Meter, Inc., Board of Trade Bldg., Kansas City, Mo.
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Moisture Register Co., 1029 N. Sycamore Ave., Los Angeles, Calif.
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Moline Furniture Works, Moline, Ill.
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N

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National Brass Co., 1600 Madison St., S. E., Grand Rapids, Mich.
Combustion & draft controllers

National Electric Controller Co., 5305 Ravenswood Ave., Chicago, Ill.
Rheostats

National Engineering Products, Inc., Commerce & Savings Bldg., Washington, D. C.
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National Instrument Co., 44 School St., Boston, Mass.
Electro-mechanical instruments & devices

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National Technical Labs., 3330 E. Colorado St., Pasadena, Calif.
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Natural Gas Equipment Inc., 541 Petroleum Securities Bldg., Los Angeles, Calif.
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Negus, T. S. & J. D., 69 Pearl St., New York, N. Y.
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Nelson Vacuum Pump Co., Geo. F., 2133 Fourth St., Berkeley, Calif.
High vacuum pumps

Neptune Meter Co., 50 W. 50th St., New York, N. Y.
Liquid meters

Newark Scale Works, 10-12 Hobson St., Newark, N. J.
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New Jersey Meter Co., Plainfield, N. J.
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New York Scientific Supply Co., 111 East 22nd St., New York, N. Y.
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Niagara Electrical Instrument Co., 725 Genesee Bldg., Buffalo, N. Y.
Electrical power analyzer

Niehoff & Co., C. E., 4925 Lawrence Ave., Chicago, Ill.
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Northern Equipment Company, 1945 Grove Drive, Erie, Pa.
Boiler feed control

North Side Tool Co., Dayton, Ohio
Machine shop amplifying gages

Norton Co., Worcester, Mass.
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Norton Electrical Instrument Co., 101 Hilliard St., Manchester, Conn.
Electrical instruments

Nurnberg Thermometer Co., Inc., 397 Bridge St., Brooklyn, N. Y.
Thermometers & Hydrometers

Nye, Inc., Wm. F., New Bedford, Mass.
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O

Ohio Injector Co., 3 Main St., Wadsworth, Ohio
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P

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Paulson & Co., Henry, 37 So. Wabash Ave., Chicago, Ill.
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Paulstick & Sons, H., 2124 Fulton St., Brooklyn, N. Y.
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Perkins & Son, Inc., B. F., Holyoke, Mass.
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Permutit Company, 330 West 42nd St., New York, N. Y.
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Philadelphia Thermometer Co., 915 Filbert St., Philadelphia, Pa.
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Pioneer Instrument Division of Bendix Aviation Corp., Bendix, N. J.
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Pitometer Log Corp., 208 Lafayette St., New York, N. Y.
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Pittsburgh Equitable Meter Co., 400 N. Lexington Ave., Pittsburgh, Pa.
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Pittsburgh Instrument & Machine Co., 1026 Reedsdale St., Pittsburgh, Pa.
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Pneumercator Co., Inc., 305 E. 46th St., New York, N. Y.
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Polarized Light & Photoelastic Co., 55 W. 42nd St., New York, N. Y.
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Polarizing Instrument Co., 630 Fifth Ave., New York, N. Y.
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Pratt & Whitney, Div. Niles-Bement-Pond Co., Hartford, Conn.
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Precise Instrument Co., 200 Tillary St., Brooklyn, N. Y.
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Production Instrument Co., 710 W. Jackson Blvd., Chicago, Ill.
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Pyro-Electro Instrument Co., 7323 W. Chicago Blvd., Detroit, Mich.
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Pyrometer Instrument Co., 103 Lafayette St., New York, N. Y.
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R

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High frequency radio transmitters & receivers
Ranco, Inc., 601 West Fifth Ave., Columbus, Ohio
Refrigeration controls
Randall, Frank E., 248 Ash St., Waltham, Mass.
Machinists' dial gages
Rascher & Betzold, 829-835 Orleans St., Chicago, Ill.
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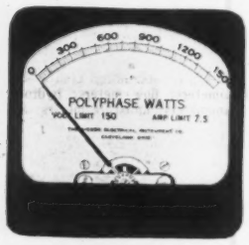

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WEIGHTS, Analytical (Cont'd)
Suter, Alfred
Thomas Co., Arthur H.
Torsion Balance Co.
Troemner, Henry
Voland & Sons, Inc.
Welch Mfg. Co.
WEIGHTS, Avoirdupois
Becker, Inc., Christian
Central Scientific Co.
Exact Weight Scale Co.
Gurley, W. & L. E.
Howe Scale Co.
Newark Scale Works
Seederer-Kohlbusch, Inc.
Suter, Alfred
Torsion Balance Co.
Troemner, Henry
Voland & Sons, Inc.
WEIGHTS, Metric
Ainsworth & Sons
Becker, Inc., Christian
Central Scientific Co.
Chicago Apparatus Co.
Exact Weight Scale Co.
Gaertner Scientific Corp.
Gurley, W. & L. E.
Keller Mfg. Co.
Newark Scale Works
Seederer-Kohlbusch, Inc.
Suter, Alfred
Toledo Scale Co.
Torsion Balance Co.
Troemner, Henry
Voland & Sons, Inc.
Welch Mfg. Co.
WEIGHTS, Test (See Weights, Avoirdupois, Metric or Troy)
WEIGHTS, Troy
Becker, Inc., Christian
Central Scientific Co.
Exact Weight Scale Co.
Gurley, W. & L. E.
Howe Scale Co.
Newark Scale Works
Seederer-Kohlbusch, Inc.
Torsion Balance Co.
Troemner, Henry
WEIGHTS & MEASURES, PRECISION STANDARDS
Becker, Inc., Christian
Gurley, W. & L. E.
Jacobs Bros. Co.
Pfaltz & Bauer, Inc.
Seederer-Kohlbusch, Inc.
Torsion Balance Co.
Troemner, Henry
WEIR METERS (See Flowmeters, Weir)
WIND DIRECTION & VELOCITY INDICATORS
Binckley, G. S.
Electric Speed Ind. Co.
Elec. Tachometer Corp.
Friez & Sons
General Elec. Co.
Geophysical Inst. Co.
Green, Henry J.
Kenyon Instrument Co.
Southw'n Electronics Labs
WIND DIRECTION & VELOCITY RECORDERS
Binckley, G. S.
Elec. Tachometer Corp.
Esterline-Angus Co.
Friez & Sons
Geophysical Instrument
Green, Henry J.
Kenyon Instrument Co.
Leeds & Northrup Co.
Zeiss, Inc. Carl
WIND GAGES (See Gages Wind)
WIRE, Fine, Copper, Enameled
E-Nam Corp.
WIRES, Gear Measuring
Van Keuren Co.
WIRES, Thread Measuring
Sheffield Gage
Van Keuren Co.
X-RAY CAMERAS, Diffraction
Baird Associates
Hayes Scientific Apparatus
X-RAY EQUIPMENT
Baird Associates
Fish-Schurman Co.
Gen. Elec. X-Ray Corp.
Hayes Scientific App.
Kelley-Koett Mfg. Co.
Patterson Screen Co.
Westinghouse X-Ray Co.
Wyland, George
X-RAY FLUOROSCOPIC SCREENS (See Screens, X-Ray Fluoroscopic)
X-RAY INTENSIFYING SCREENS (See Screens, X-Ray Intensifying)
X-RAY SPECTOGRAPHS (See Spectographs, X-Ray)
X-RAY SPECTROMETERS (See Spectrometers, X-Ray)
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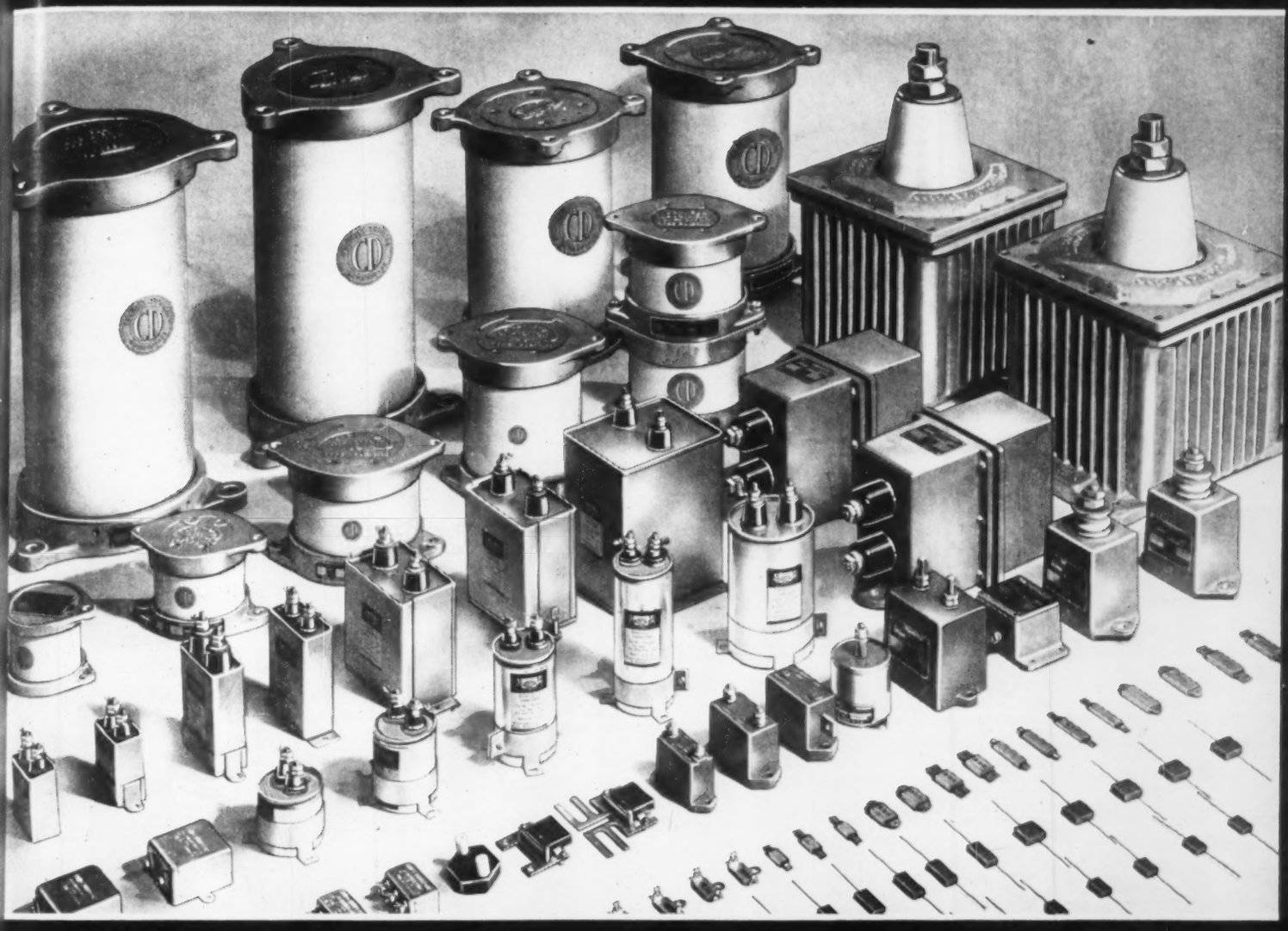

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